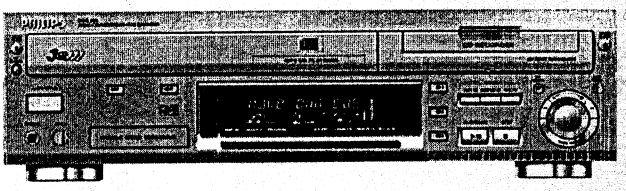
Compact Disc Recorder

CDR800/00/17

Service
Service
Service

CDR802/00S/01S
CDR820/00/17
CDR822/00S/01S



Service Manual

SERVICING

For servicing CDR8xx the set has to be divided into two parts:

1. Except for the CD-R/W module all workshops can repair the set on component level.
   The Switched Mode Power Supply unit will be exchanged completely in case of a failure.
2. The **CD-R/W module** can only be repaired on component level with the help of ComPair.
   With this tool diagnosing of the set can be done in an interactive way. In this tool also the adjustment procedure has been implemented. The adjustment is absolutely necessary in case the CDR-Main Board and/or CD drive (CDR Loader) is disconnected from the matched production combination.
   Only designated workshops can perform these repairs!
   Please send the complete set to the designated workshop.

COMPACT disc DIGITAL AUDIO

COMPACT disc DIGITAL AUDIO Recordable ReWritable

MP3-CD PLAYBACK MP3

Available circuit descriptions:

The Basics of Compact Disc Recordable/Rewritable	4822 725 25242
3rd generation Compact Disc Recording (with reference to description of the Basic Engine)	3104 125 40100
2nd line Service Manual CDR Mozart Module	3122 785 60030

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CLASS 1 LASER PRODUCT

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GB 3103 785 25100

PHILIPS

General:

Mains voltage : 220V-240V / 50-60Hz for /00
100V-240V /50-60Hz for /01
120V / 60Hz for /17
Power consumption : ≤ 18W
≤ 1W in stand by

Input / Output:

Analog in:
input sensitivity : ≤250mV$_{rms}$
max. input voltage : 2,8V$_{rms}$
input impedance : 47kΩ

Analog out:
output level : 2V$_{rms}$±2dB
output impedance : 300Ω

Microphone in:*
input sensitivity : ≤1mV$_{rms}$
max. input voltage : 50mV$_{rms}$
input impedance : 2kΩ

Digital in (acc. IEC958):
input level : 0,5V$_{pp}$
input impedance : 75Ω

Digital out (acc. IEC958):
output level : 0,5V$_{pp}$
output impedance : 75Ω

Headphone:
output level : max. 5V$_{rms}$ at 100kΩ
output impedance : 120Ω
frequency response: 20 - 20.000 Hz ±3dB (typ. ±2dB)
distortion : ≤ 0,01% at 1 kHz and -6dB output level at 120Ω
channel difference : ≤ 3dB at 1 kHz
channel crosstalk : -73dB at 1kHz (typ. -80dB)

AUDIO PERFORMANCE

3CDC module: To be measured on ANALOG OUT socket.

frequency response : 20 - 20.000 Hz ±0,3dB
signal/noise ratio : ≥ 114dB (120dB A-weighted)
distortion : -90dB at 1 kHz (-95dB typ.)
channel difference : ≤ 0,3dB at 1 kHz
channel crosstalk : -95dB at 1kHz(-100dB typ.)
de emphasis : 0 or 15/50µs switched automatically by subcode on the disc

laser
output power : 500µW
wave length : 780 ±20nm

CD-RW module: To be measured on ANALOG OUT socket.

frequency response : 20 - 20.000 Hz ±0,3dB (±0,5dB recording)
signal/noise ratio : ≥ 114dB (120dB A-weighted)
distortion : -90dB at 1 kHz (-85dB recording)
channel difference : ≤ 0,3dB at 1 kHz (≤ 0,5dB recording)
channel crosstalk : -95dB at 1kHz (-85dB recording)
de emphasis : 0 or 15/50µs switched automatically by subcode on the disc

laser (laser class 3B)
output power : 1mW max. during reading
20mW max. during writing
wave length : 780 ±20nm

* not on all versions

Remote Control:

RC5 commands ***RC283505***

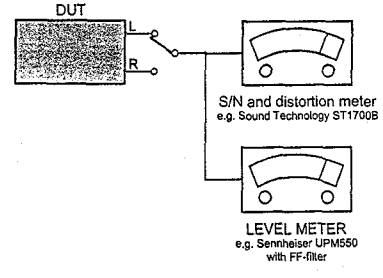
RC KEY	SYSTEM CODE		COMMAND CODE
	CD	CDR	
⏻ Standby	20	26	12
BRIGHTNESS	20	26	71
TRACK INCR.	-	26	114
CD TEXT	20	26	88
1	20	26	01
2	20	26	02
3	20	26	03
4	20	26	04
5	20	26	05
6	20	26	06
7	20	26	07
8	20	26	08
9	20	26	09
TEXT EDIT	20	26	82
0	20	26	00
PROGRAM	20	26	36
NO	20	26	49
YES	20	26	87
▶ PLAY	20	26	53
⏮	20	26	33
⏭	20	26	32
■ STOP	20	26	54
◀◀	20	26	50
▶▶	20	26	52
⏸ PAUSE	20	26	48
SHUFFLE	20	26	28
REPEAT	20	26	29
CD1	20	20	55
CD2	20	20	56
CD3	20	20	57
CDR	26	26	63

RC5 code RC283505, 130300

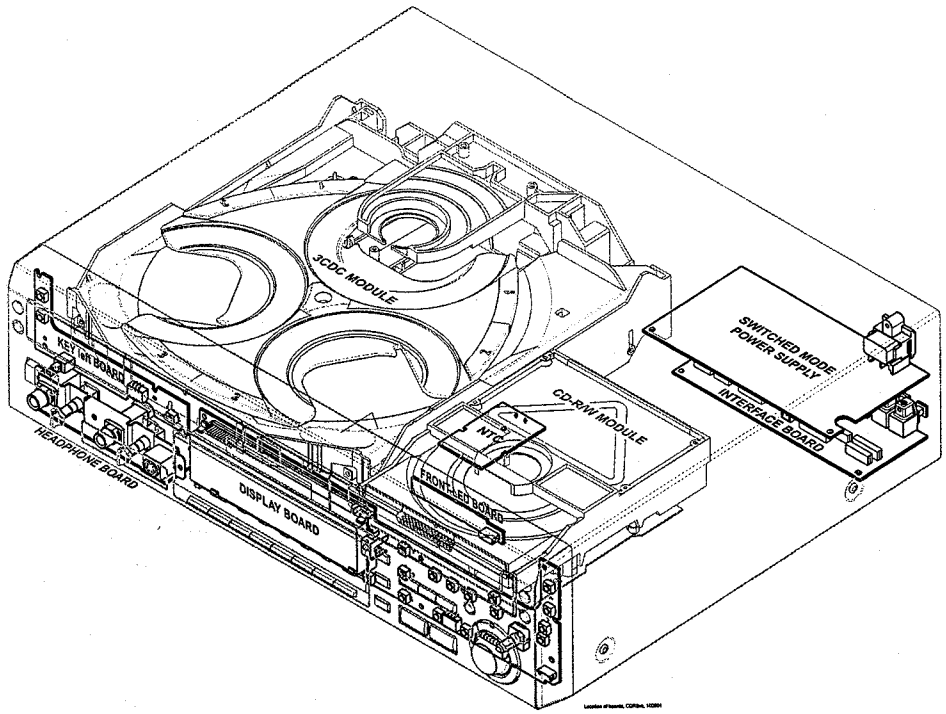
MEASUREMENT SETUP

CD

Use Audio Signal Disc SBC429 4822 397 30184
(replaces test disc 3)



LOCATION OF PRINTED BOARDS



picture 1

WARNINGS & SAFETY

ESD

(GB) WARNING
All ICs and many other semiconductors are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce life drastically.
When repairing, make sure that you are connected with the same potential as the mass of the set via a wristband with resistance. Keep components and tools at this potential.

(F) ATTENTION
Tous les IC et beaucoup d'autres semi-conducteurs sont sensibles aux décharges statiques (ESD). Leur longévite pourrait être considérablement écourtée par le fait qu'aucune précaution nést prise à leur manipulation.
Lors de réparations, s'assurer de bien être relié au même potentiel que la masse de l'appareil et enfileer le bracelet serti d'une résistance de sécurité.
Veiller à ce que les composants ainsi que les outils que l'on utilise soient également à ce potentiel.

(D) WARNUNG
Alle ICs und viele andere Halbleiter sind empfindlich gegenüber elektrostatischen Entladungen (ESD).
Unsorgfältige Behandlung im Reparaturfall kann die Lebensdauer drastisch reduzieren.
Sorgen Sie dafür, daß Sie im Reparaturfall über ein Pulsarmband mit Widerstand mit dem Massepotential des Gerätes verbunden sind.
Halten Sie Bauteile und Hilfsmittel ebenfalls auf diesem Potential.

(NL) WAARSCHUWING
Alle IC's en vele andere halfgeleiders zijn gevoelig voor electrostatische ontladingen (ESD).
Onzorgvuldig behandelen tijdens reparatie kan de levensduur drastisch doen verminderm. Zorg ervoor dat u tijdens reparatie via een polsband met weerstand verbonden bent met hetzelfde potentiaal als de massa van het apparaat.
Houd componenten en hulpmiddelen ook op ditzelfde potentiaal.

(I) AVVERTIMENTO
Tutti IC e parecchi semi-conduttori sono sensibili alle scariche statiche (ESD).
La loro longevità potrebbe essere fortemente ridatta in caso di non osservazione della più grande cauzione alla loro manipolazione. Durante le riparationi occorre quindi essere collegato allo stesso potenziale che quello della massa deláppareccbio tramite un braccialetto a resistenza.
Assicurarsi che i componenti e anche gli utensili con quali si lavora siano anche a questo potenziale.

(GB) AVAILABLE ESD PROTECTION EQUIPMENT :

anti-static table mat	large 1200x650x1.25mm	4822 466 10953
	small 600x650x1.25mm	4822 466 10958
anti-static wristband		4822 395 10223
connection box (3 press stud connections, 1MΩ)		4822 320 11307
extendible cable (2m, 2MΩ, to connect wristband to connection box)		4822 320 11305
connecting cable (3m, 2MΩ, to connect table mat to connection box)		4822 320 11306
earth cable (1MΩ, to connect any product to mat or to connection box)		4822 320 11308
KIT ESD3 (combining all 6 prior products - small table mat)		4822 310 10671
wristband tester		4822 344 13999

SAFETY

(GB)
Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified be used.
Safety components are marked by the symbol ⚠

(F)
Les normes de sécurité exigent que l'appareil soit remis à l'état d'origine et que soient utilisées les pièces de rechange identiques à celles spécifiées.
Les composants de sécurité sont marqués ⚠

(D)
Bei jeder Reparatur sind die geltenden Sicherheitsvorschriften zu beachten. Der Originalzustand des Gerätes darf nicht verändert werden. Für Reparaturen sind Originalersatzteile zu verwenden.
Sicherheitsbauteile sind durch das Symbol ⚠ markiert.

(NL)
Veiligheidsbepalingen vereisen, dat het apparaat in zijn oorspronkelijke toestand wordt teruggebracht en dat onderdelen, identiek aan de gespecificeerde, worden toegepast.
De Veiligheidsonderdelen zijn aangeduid met het symbool ⚠

(I)
Le norme di sicurezza estigono che l'apparecchio venga rimesso nelle condizioni originali e che siano utilizzati i pezzi di ricambiago identici a quelli specificati.
Componenty di sicurezza sono marcati con ⚠

(GB) DANGER: Invisible laser radiation when open.
AVOID DIRECT EXPOSURE TO BEAM.

CLASS 1
LASER PRODUCT

(S) Varning !
Osynlig laserstrålning när apparaten är öppnad och spärren är urkopplad. Betrakta ej strålen.

(DK) Advarsel !
Usynlig laserstråling ved åbning når sikkerhedsafbrydere er ude af funktion. Undgå udsaettelse for stråling.

(FIN) Varoitus !
Avatussa laitteessa ja suojalukituksen ohitettaessa olet alttiina näkymättömälle laserisäteilylle. Älä katso säteeseen !

(GB)
After servicing and before returning the set to customer perform a leakage current measurement test from all exposed metal parts to earth ground, to assure no shock hazard exists.
The leakage current must not exceed 0.5mA.

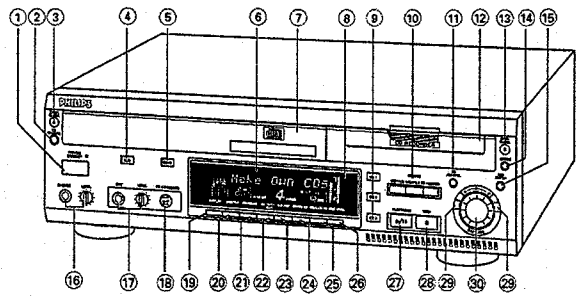
(F)
"Pour votre sécurite, ces documents doivent être utilisés par des spécialistes agréés, seuls habilités à réparer votre appareil en panne".

BRIEF OPERATING INSTRUCTIONS

The following excerpt of the Owner´s Manual serves as a very short introduction to the set.
The complete Owners Manual can be downloaded in several languages from the Internet site of Philips Customer Care Center "P3C": **http://130.144.192.42/cgi-bin/newmpr/debt.pl**

English

Controls



Controls

General

① **POWER**
switches the CD recorder/changer ON and OFF
STANDBY indicator
lights up when the set is in Standby

④ **AUX**
selects external input

⑤ **CDR**
selects CD recorder

⑥ **Display**
information screen

⑧ **IR sensor**
receives signals from the remote control

⑨ **CD 1, 2, 3**
selects CD changer and switches to CD 1, 2 or 3

⑪ **NO/CANCEL**
cancels a selection

⑮ **YES/ENTER**
confirms a selection

⑯ **PHONES**
jack for headphones
LEVEL
headphones volume control

⑰ **MIC**(rophone)
microphone jack
LEVEL
microphone volume control
CDR82x only

⑱ **PC KEYBOARD**
PC keyboard connection

⑲ **DISPLAY**
selects display information

⑳ **SHUFFLE**
plays discs in changer and recorder or program in random order

㉑ **PROGRAM**
opens/closes program memory

㉒ **CD TEXT/edit**
- makes CD text scroll over display once
- opens Text Edit mode

㉗ **PLAY/PAUSE ▶II**
starts play/interrupts play/recording

㉘ **STOP ■**
stops playback or recording

㉙ **◀◀ ▶▶**
- searches backward (◀◀) and forward (▶▶)
- controls the cursor in various menus

㉚ **⏮ EASY JOG ⏭**
selects next/previous menu item or track

CD changer

② **CD CHANGE**
selects next disc in CD changer

③ **OPEN/CLOSE ▲**
opens/closes changer tray

⑦ **Disc tray**

㉓ **A-B EDIT**
opens A-B Edit mode to create your own 'tracks'

CD recorder

⑩ **Recording keys**
COPY CD - selects high speed with auto finalize recording mode
COMPILE CD - selects high speed recording mode/opens program memory
RECORD - selects other recording modes

⑫ **Disc tray**

⑬ **OPEN/CLOSE ▲**
opens/closes recorder tray

⑭ **SPEED** CDR82x only
selects recording speed

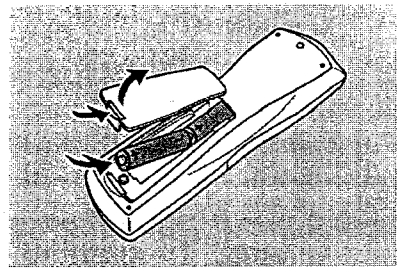
㉔ **ERASE CD**
erases recordings on CDRW

㉕ **FINALIZE CD**
finalizes/unfinalizes disc

㉖ **REC**(ording) **LEVEL**
enables the EASY JOG key to set the recording level control

English

Inserting batteries in the remote control



1 Open the battery compartment cover.

2 Insert 2 batteries (AA, LR6 or UM-3; as supplied) as shown.

3 Replace the cover.

Note: We recommend you use 2 batteries of the same type and condition.

Batteries contain chemical substances, so they should be disposed of properly.

Note: Unless stated otherwise all controls are on the front of the recorder. When provided on the remote control, you can also use the corresponding buttons, after selecting CD recorder or CD changer.

Remote control commands

① ⏻
switches to Standby

② **CD TEXT**
scrolls CD text

③ **Number/alphabet keys 0 - 9**
- selects a track by number
- selects character for text input
SPACE inserts space during text input

④ **PROGRAM**
opens/closes program memory

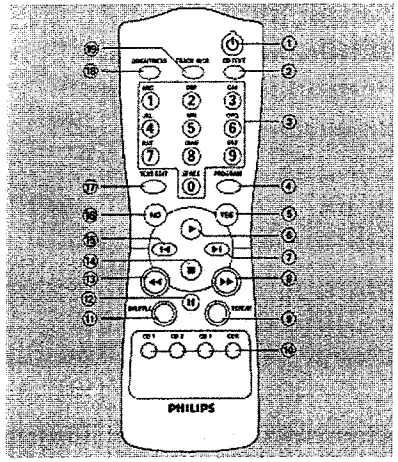
⑤ **YES**
confirms a selection

⑥ ▶
starts playback

⑦ ▶|
selects next menu item or track

⑧ ▶▶
- searches forward
- cursor control in various menus

⑨ **REPEAT**
repeat play



⑩ **CD 1, 2, 3**
selects disc in CD changer
CDR
selects CD recorder

⑪ **SHUFFLE**
plays all discs or program in random order

⑫ ⏸
interrupts playback/recording

⑬ ◀◀
- searches backward
- cursor control in various menus

⑭ ■
stops playback or recording

⑮ |◀
selects previous menu item or track

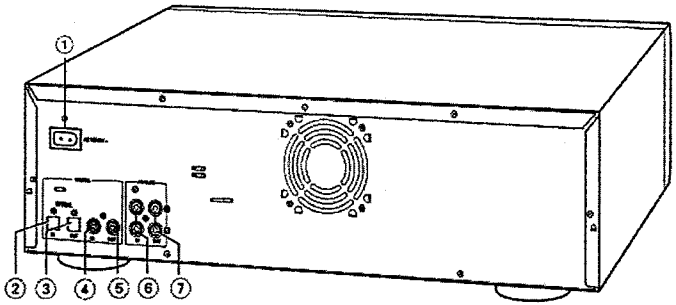
⑯ **NO**
cancels a selection

⑰ **TEXT EDIT**
opens Text Edit mode

⑱ **BRIGHTNESS**
sets the brightness of the display

⑲ **TRACK INCR**(ement)
- selects automatic track increment mode
- increments track number during recording

English



Connections

① Connection to power

② **OPTICAL IN**
connects to the digital optical output of an external digital source (CD player, DVD, DAT, etc.), so you can record from this source (AUX Optical)

③ **OPTICAL OUT** CDR82x only
connects to the digital optical input of an amplifier/receiver, so you can listen to playback of the set via the amplifier/receiver.

④ **DIGITAL IN**
connects to the digital coaxial output of an external digital source (CD player, DVD, DAT, etc.), so you can record from this source (AUX Digital)

⑤ **DIGITAL OUT**
connects to the digital coaxial input of an amplifier/receiver or digital recording device, so you can listen to playback of the set via the amplifier/receiver.

⑥ **ANALOG IN**
connects to the line (analog) output of an amplifier/receiver or other analog source (tape deck, tuner etc.), so you can record from this source (AUX Analog). For recording from a record player both recorder and record player should be connected to an amplifier/receiver

⑦ **ANALOG OUT**
connects to the line (analog) input of an amplifier/receiver or analog recording device, so you can listen to playback of the set via the amplifier/receiver.

Setup recommendations

- Place the set on a solid, vibration free surface.
- Make sure there is sufficient space around the set to prevent overheating.
- Do not place the set near a source of heat or in direct sunlight.
- Do not use the set under extremely damp conditions.
- If the set is placed in a cabinet, make sure that a 2.5 cm space repower free on all sides of the CD recorder for proper ventilation.
- Active mobile phones near to the set may cause malfunctions.
- Place the set below your receiver.

Connections general

NEVER MAKE OR CHANGE CONNECTIONS WITH THE POWER SWITCHED ON

For playback on both recorder deck and changer deck the set should be connected to your amplifier/receiver. For this the following outputs are present:
- Digital optical output (OPTICAL OUT);
- Digital coaxial output (DIGITAL OUT);
- Analog output (ANALOG OUT).

For external recording the following inputs are present:
- Digital optical input (OPTICAL IN);
- Digital coaxial input (DIGITAL IN);
- Analog input (ANALOG IN).

These inputs can be connected to the corresponding output(s) of your amplifier/receiver or directly to the corresponding output(s) of the external source. Record players cannot be connected directly to the set.

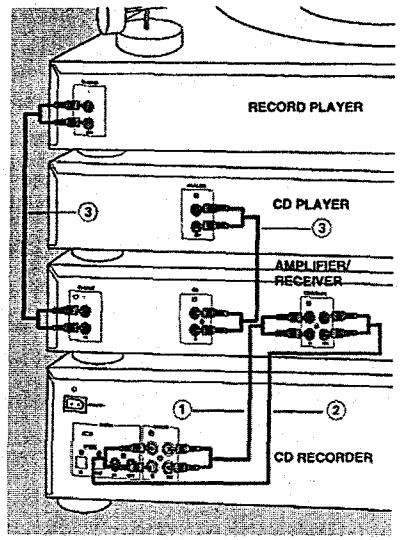
The connections you make will depend upon the possibilities your audio equipment offers and how you are going to use the set. Please refer to the user manuals for your other audio equipment first.

Digital recordings (optical or coaxial) give the best performance in audio and usability.

If possible, always make both digital and analog connections. In this way you can always make analog recordings when digital recording is not possible.

Analog connections

These connections are required for playback and recording via an amplifier/receiver, equipped with an analog in- and outputs.



1 Connect supplied audio cord between the ANALOG OUT-jacks on the set and the ANALOG input jacks of the amplifier/receiver (TAPE IN, CD-R, AUX or PLAY IN).
Insert the red plugs into the R jacks, and the white plugs into the L jacks.

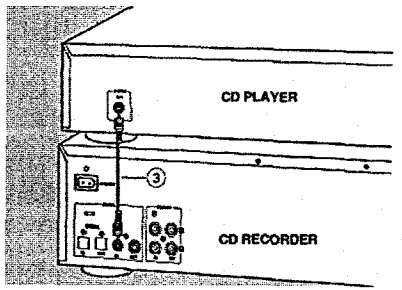
2 Connect supplied audio cord between the ANALOG IN-jacks on the set and the analog outputs of the amplifier/receiver (CDR OUT, TAPE OUT, AUX OUT, REC OUT etc.).
Insert the red plugs into the R jacks, and the white plugs into the L jacks.

3 Connect all other components of your system (tape deck, CD player, tuner, record player etc.) via their ANALOG OUT-jacks to the appropriate analog input jacks of the amplifier/receiver (CD IN, TUNER IN, AUX IN, PHONO IN etc.).
→ Any analog device, connected to the amplifier/receiver can now be used as recording source (AUX Analog).

Digital connections

Direct digital coaxial connection

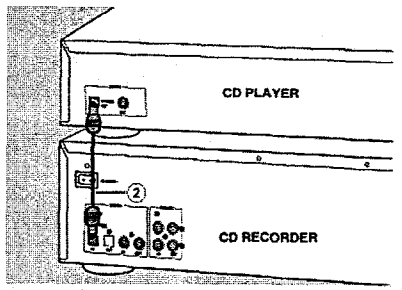
This connection is required for direct recording from a digital coaxial source (e.g. a CD player, DVD, DAT).



1 Connect a digital coaxial cord between the DIGITAL IN-jack on the set and the DIGITAL OUT jack of the digital source.
→ Recording can now be done via the digital coaxial input (AUX Digital).

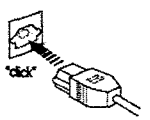
Direct digital optical connection

This connection is required for direct recording from a digital optical source (e.g. a CD player, DVD, DAT).



1 Remove the dust caps from the digital optical connections of both source and CD recorder. Keep the caps in a safe place.

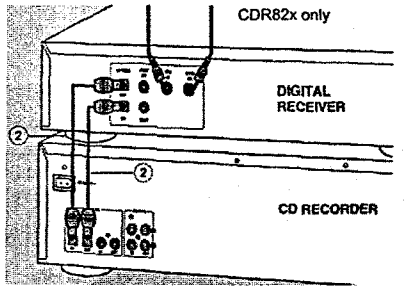
2 Connect an optical fibre-optic cord between the OPTICAL IN jack of the set and the OPTICAL OUT jack of the source.
Make sure you insert both plugs fully, until a click is heard.



→ Recording can now be done via the digital optical input (AUX Optical).

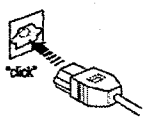
Digital optical connections via a digital receiver

If you have a receiver with digital optical in- and outputs, these connections allow you to make digital recordings from various sources, connected to the receiver.



1 Remove the dust caps from the digital optical connections of both source and CD recorder. Keep the caps in a safe place.

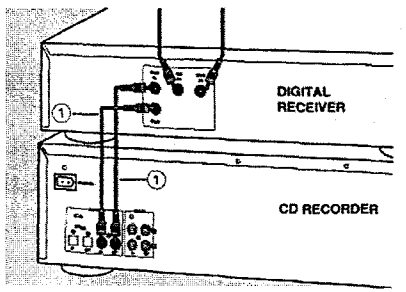
2 Connect an optical fibre-optic cord between the OPTICAL IN- and OUT jacks of the set and optical in- and output jacks on the digital receiver.
Make sure you insert both plugs fully, until a click is heard.



→ Any digital device, connected to the digital input jacks of the digital receiver (e.g. CD and DVD) can now be used as recording source.

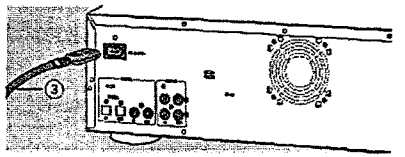
Digital coaxial connections via a digital receiver

If you have a receiver with digital coaxial in- and outputs, these connections allow you to make digital recordings from various sources, connected to the receiver.



1 Connect a digital coaxial cord between the DIGITAL IN- and OUT jacks on the set and e.g. the (digital) AUX in- and output jacks on the digital receiver.
→ Any digital device, connected to the digital input jacks of the digital receiver (e.g. CD and DVD) can now be used as recording source.

Power supply



The type plate is located on the rear of the set.

1 Check whether the power voltage as shown on the type plate corresponds to your local power voltage. If it does not, consult your dealer or service organisation.

2 Make sure all connections have been made before switching on the AC power supply.

3 Connect the power cord supplied to AC MAINS ~ and to the wall outlet. This switches on the AC power supply.

4 Press POWER to switch on the set.
→ Welcome To PHILIPS Audio will be displayed.

0 Press POWER again to switch off the set.

When the set is switched off, it is still consuming some power. To disconnect the set from the power completely, remove the power plug from the wall outlet.

Demo mode

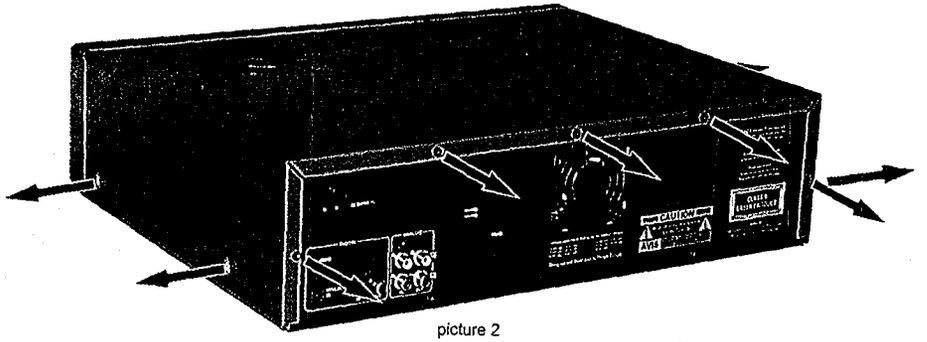
The demo mode displays various features of the set and will start automatically when no key has been pressed for several minutes or during Standby mode.

To cancel demo mode

0 Keep STOP ■ on the set pressed for at least 5 seconds.
→ The demo mode is cancelled permanently.

Dismantling the *Top Cover*

- Remove 9 screws as shown in picture 2.
- Raise top cover at the rear and pull it backwards.

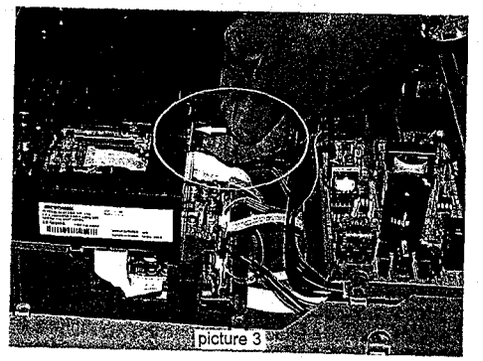


picture 2

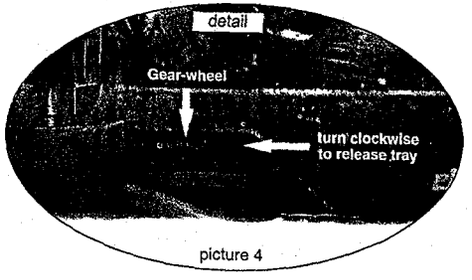
Dismantling the *Tray Covers*

To dismantle the ornamental cover, the tray has to be moved out first.
This can either be done by activating the Open/Close-key or manually.
In order to avoid unnecessary loading it is recommended to move the tray out manually a few centimetres.
To release the tray manually proceed as shown in pictures 3, 4 and 5. The tray will move out a little.
Afterwards it can be pulled out as far as convenient.

Release tray of 3 Disc Changer

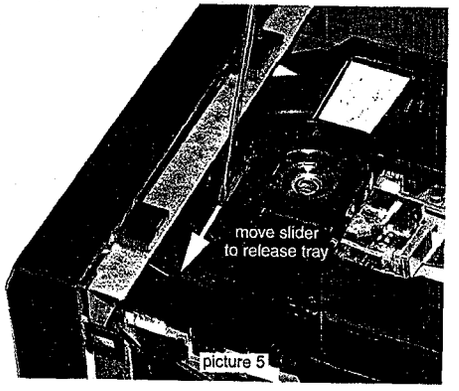


picture 3



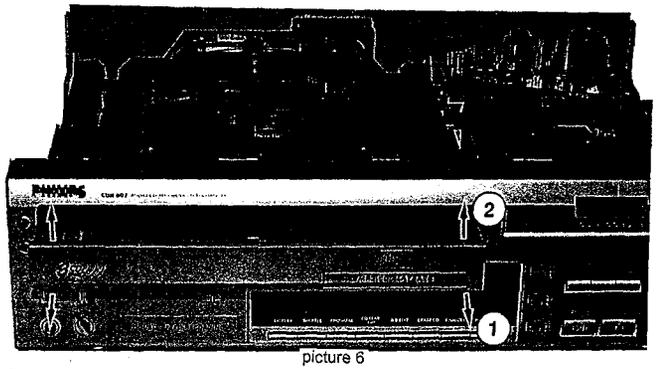
picture 4

Release tray of CDR module



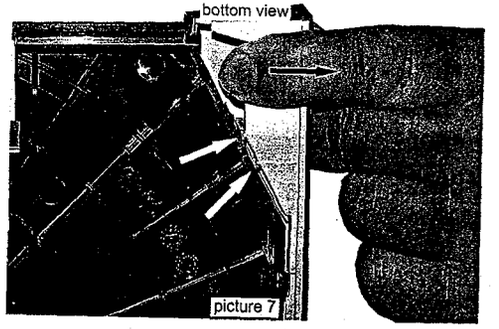
picture 5

Dismantling the *Tray Covers*
continued



picture 6

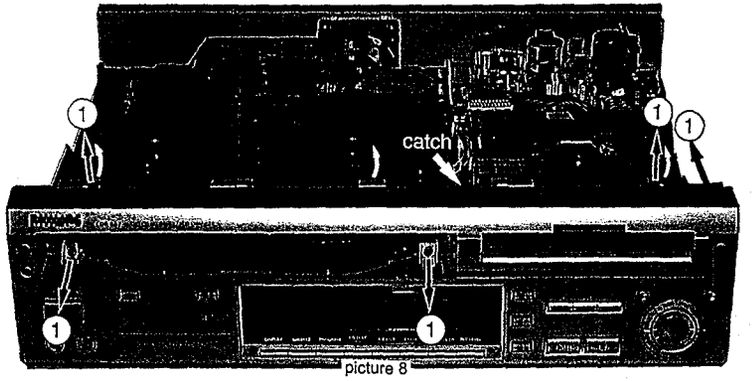
- To release the cover from the catch on the tray, pull it frontwards on bottom side as shown in picture 6 and 7.
- Pull the cover up.



picture 7

Dismantling the *ornamental cover* from the *CDR-tray* functions in the same manner.

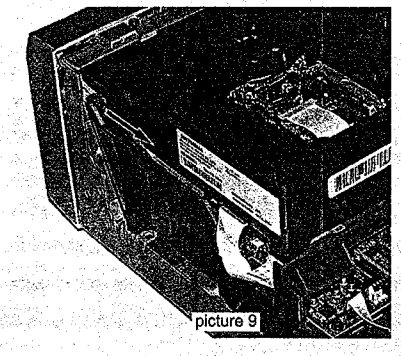
Dismantling the *Front Cabinet*

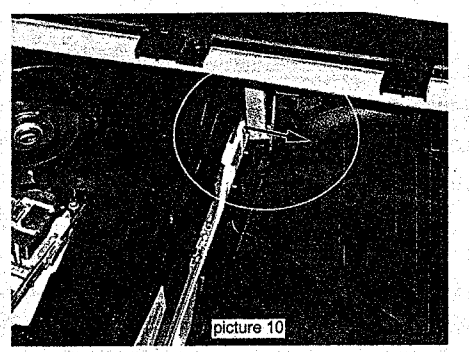


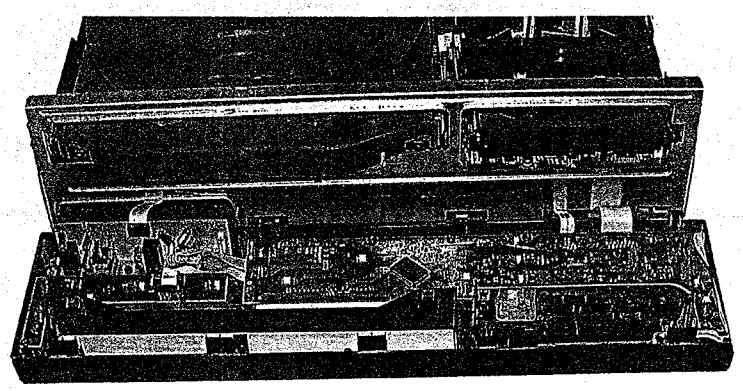
picture 8

- Remove top cover and ornamental covers from the trays first → see description on page 4-1.
- Move trays back to *closed* position.
- Loosen 5 screws as shown in pictures 8 and 9.
- Release catches on top (as shown in picture 8) and catch on frame of CDR module (see also picture 10).
- Turn front cabinet away.
- Place front cabinet as shown in picture 11.

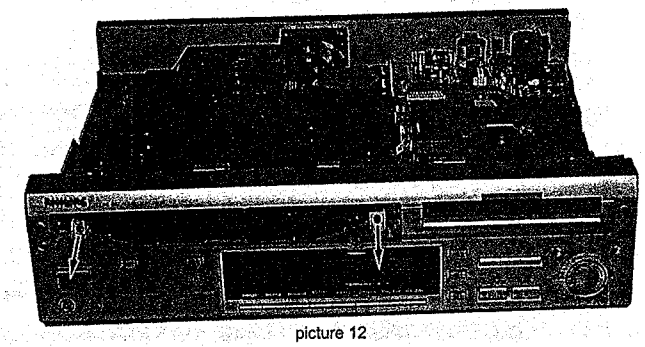
Dismantling the *Front Cabinet*
continued


picture 9


picture 10

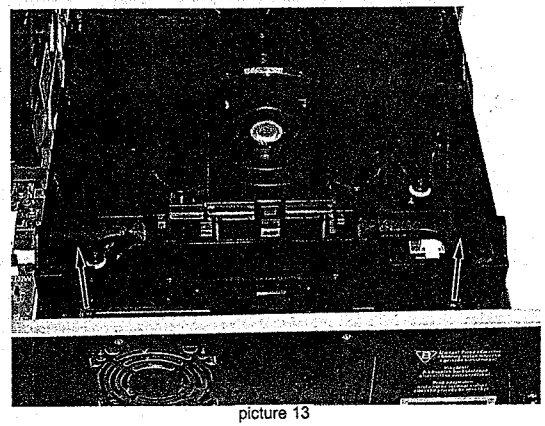

picture 11

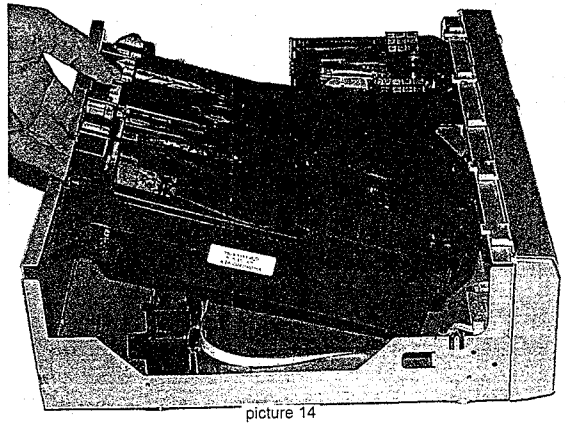
Dismantling the *3CDC module*


picture 12

- Remove top cover and ornamental cover from the tray first → see description on page 4-1.
- Loosen 2 screws on front side → see picture 12.

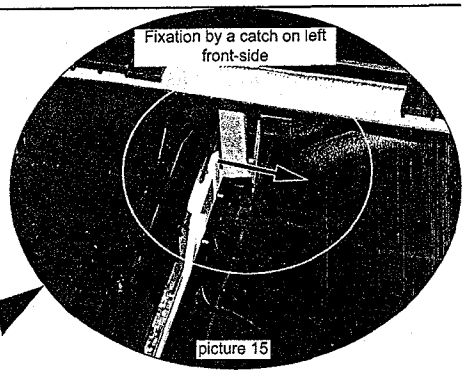
- Loosen 2 screws at the rear as shown in picture 13.
- Move the complete module backwards.
- Pull the module on rear side up and turn it out. → see picture 14
- Put the module to a proper service position. → see also chapter SERVICE HINTS.


picture 13

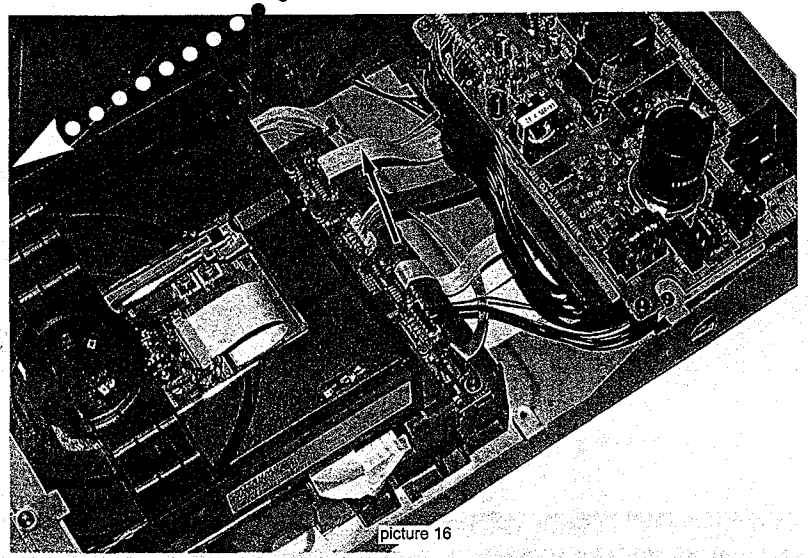

picture 14

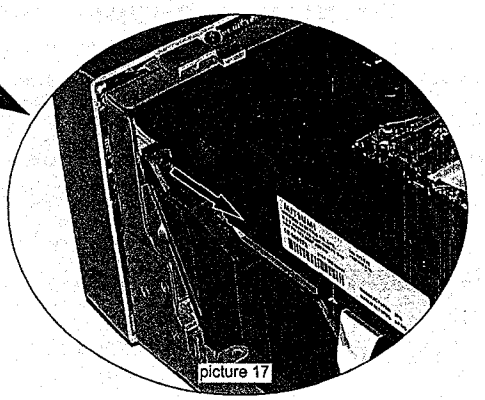
Dismantling the *CDR module*

- Remove top cover and ornamental cover from the tray first
  → see description on page 4-1.
- move tray back to *closed* position.
- to dismantle the **complete module:**
  - loosen 1 screw to bottom cabinet on rear side (see picture 16) and 1 screw to front cabinet (see picture 17)
  - disengage catch to front (see picture 15)
  - move module backwards until catches to bottom cabinet become free and pull it up.



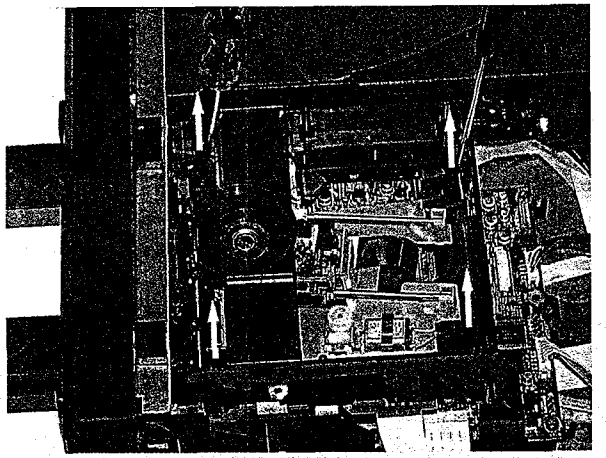
picture 15


picture 16

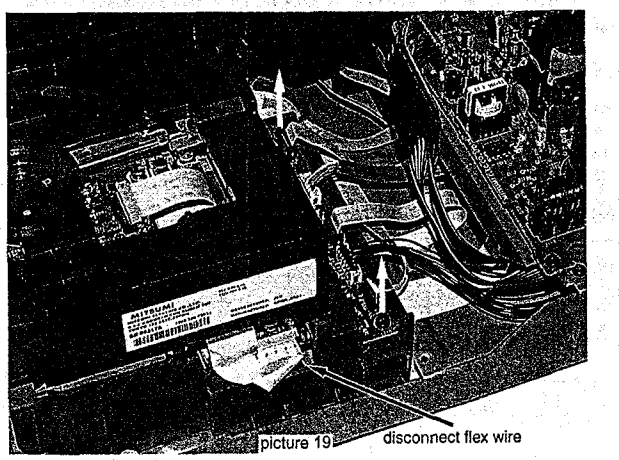

picture 17

Dismantling the *CDR module*
continued

- Remove top cover and ornamental cover from the tray first
  → see description on page 4-1.
- to dismantle the **Loader module:**
  - move tray completely out.
  - loosen 4 screws to frame as shown in picture 18.
  - put the module to a proper service position.
    → see also chapter SERVICE HINTS.


picture 18

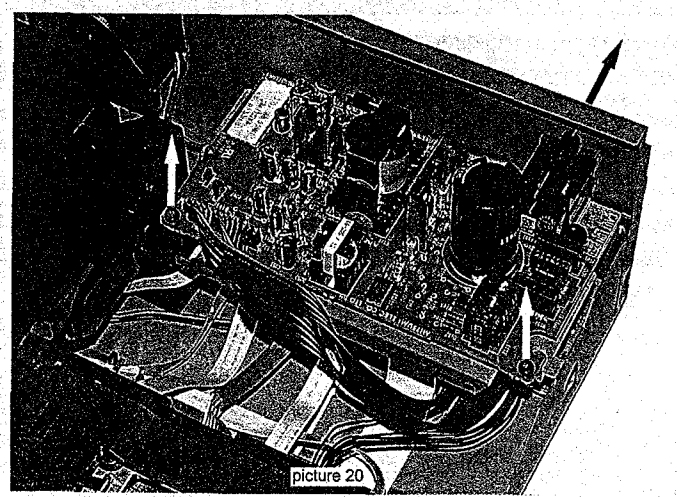
- to dismantle the **MOZART Board:**
  - loosen 2 screws to frame as shown in picture 19.
  - unlock flex foil connector and disconnect flex wire.
  - pull the board out of it's guidings (backwards).
  - place the Mozart board to a proper service position.
    → see also chapter SERVICE HINTS.



picture 19

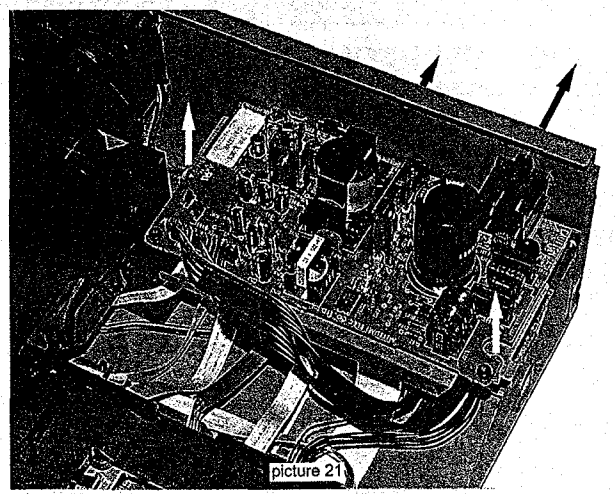
Dismantling the *Power board*

- Remove top cover first → see description on page 4-1.
- Loosen 3 screws as indicated in picture 20.
- Move the board backwards to release the mains socket.
- Lift it on the rear and turn it out.

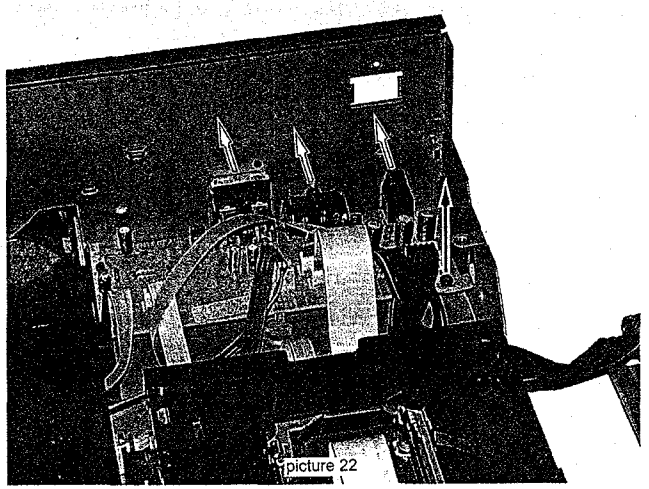

picture 20

Dismantling the *Interface Board*

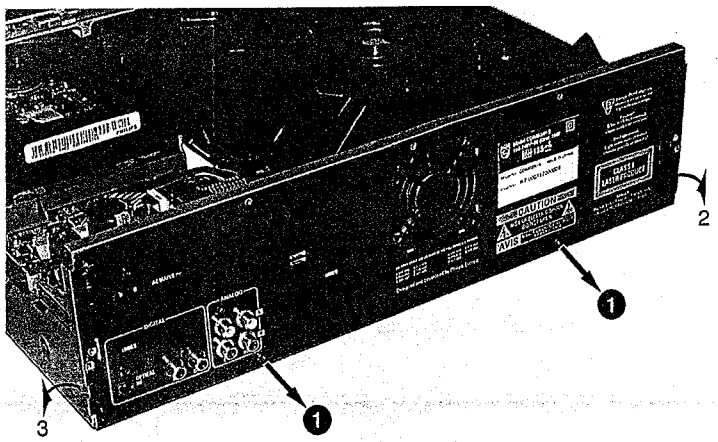
- Remove top cover first → see description on page 4-1.
- Remove Power board inclusive metal screening plate.
  - Loosen 4 screws as indicated in picture 21.
  - Move the combination backwards to release the mains socket.
  - Lift it on the rear and turn it out.


picture 21

- Loosen 1 screw from the board and 3 (4) screws from sockets at the rear plate.
- Move the Interface board backwards to release the sockets.
- place the Interface board to a proper service position.
  → see also chapter SERVICE HINTS.

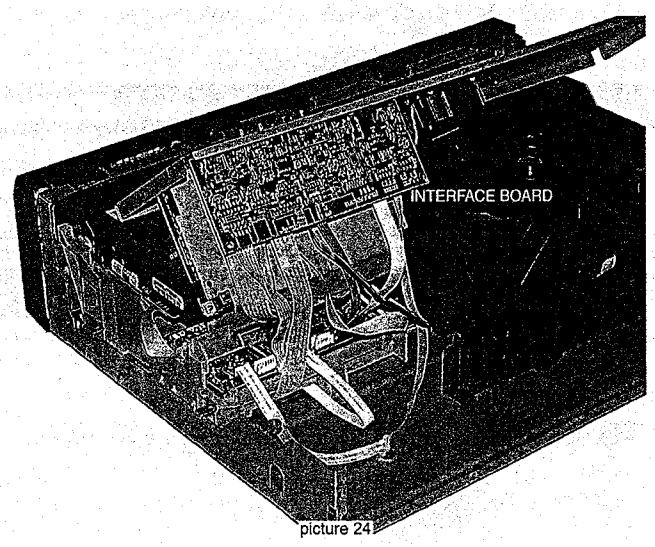

picture 22

Dismantling the *Interface Board*
alternative



picture 23

- Remove top cover first → see description on page 4-1.
- Loosen 2 screws as shown in picture 23.
- Disengage catches to bottom bottom cabinet.
- Move rear plate backwards and turn it to a proper service position → see picture 24.



picture 24

SERVICE TOOLS

TORX T10 screwdriver with shaftlength 150mm 4822 395 50423
TORX screwdriver set SBC 163 .....4822 295 50145

Audio signal disc SBC 429.....4822 397 30184
Playability test disc SBC444 .....4822 397 30245
Test disc 5 (disc without errors) +
Test disc 5A (disc with dropout errors, black spots and fingerprints)
SBC 426/426A 4822 397 30096
Burn in test disc (65 min. 1kHz signal at -30dB level without "pause") ...4822 397 30155

DEALER MODE

The sets are equipped with a special DEALER MODE.
This mode blocks the trays of the CDC- and CDR module to prevent customers from fetching out CDs from exhibition sets.

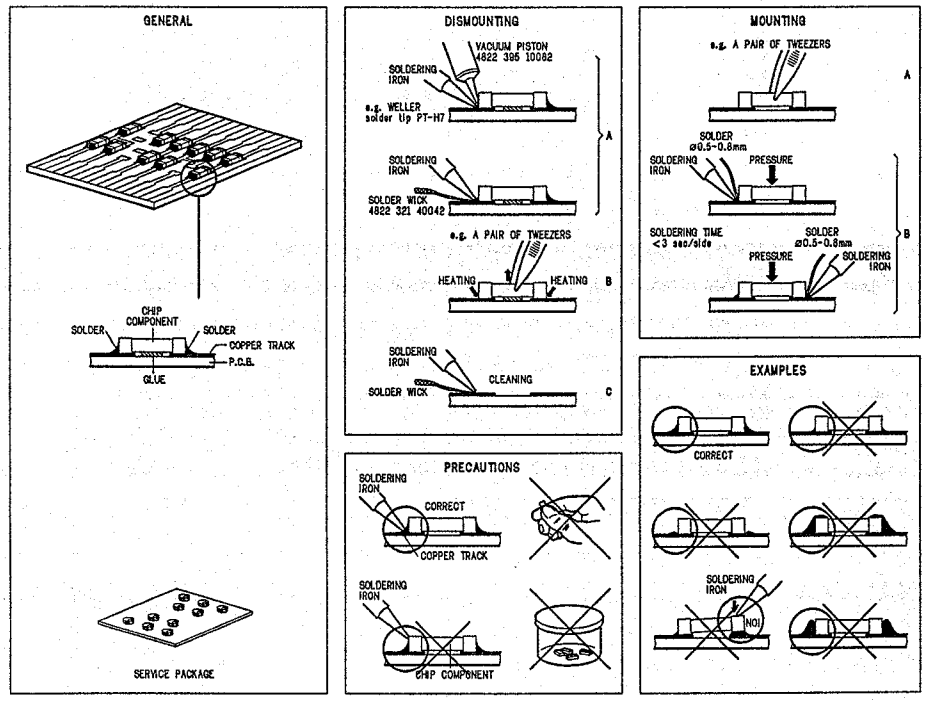
The Dealer mode can be switched on/off as follows:
1) Switch the set with the Remote Control to [Standby]
2) Press the [DISPLAY] key at least for 5s
→ Display shows
TRAYS LOCKED else UNLOCKED

DEMO MODE

The DEMO MODE displays various features of the set and will start automatically when no key has been pressed for several minutes or during Standby mode.

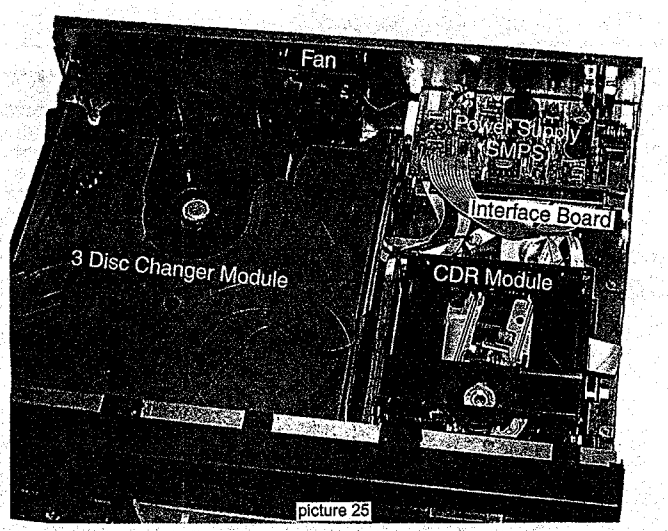
The Demo mode can be switched on/off as follows:
1) Switch the set with the Remote Control to [Standby]
2) Press the [STOP] key on the set at least for 5s
→ Display shows
DEMO ON else DEMO OFF

HANDLING CHIP COMPONENTS



General Service position

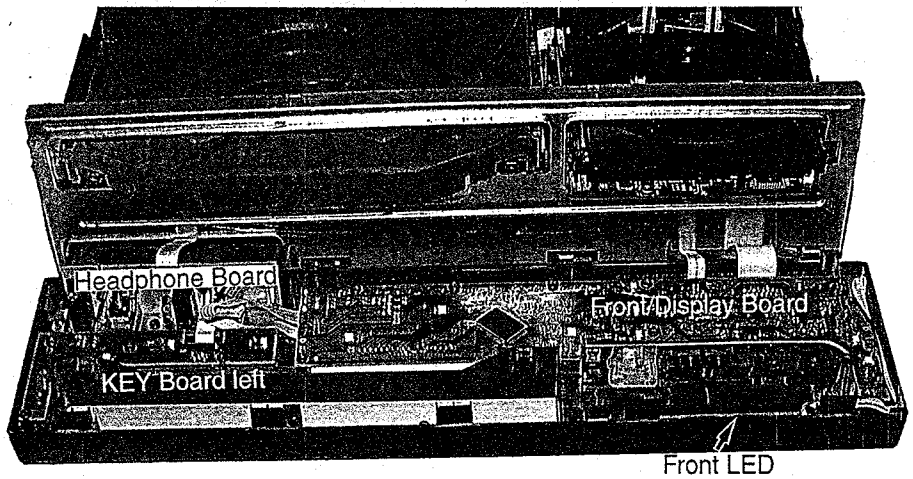
For measurements on: Power Board
For manual release of: 3CDC tray
CDR tray



picture 25

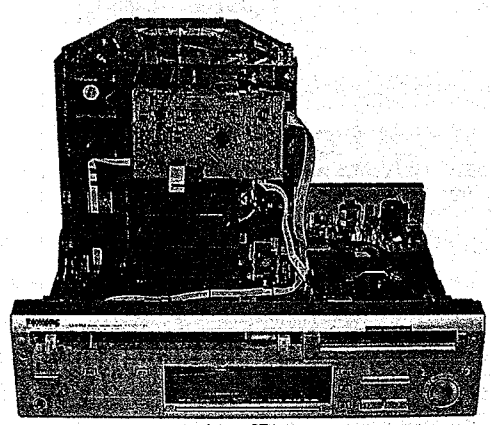
Service position *Front Board*

For dismantling instructions see chapter 4-1 to 4-3



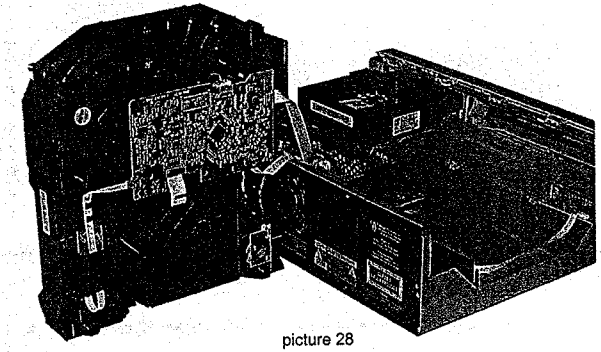
picture 26

Service position *3CDC Module*



picture 27

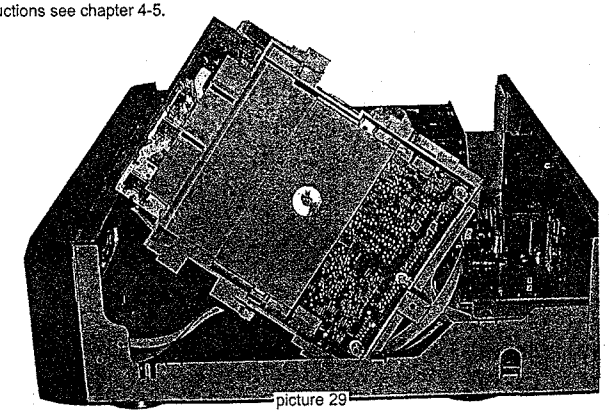
For dismantling instructions see chapter 4-4.



picture 28

Service position *CDR Module*

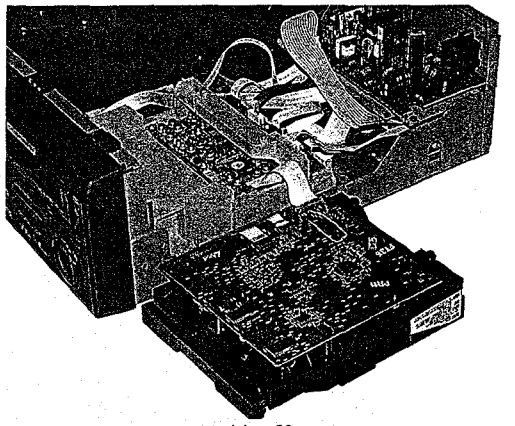
For dismantling instructions see chapter 4-5.



picture 29

Service position *CDR Loader*
(Basic Engine)

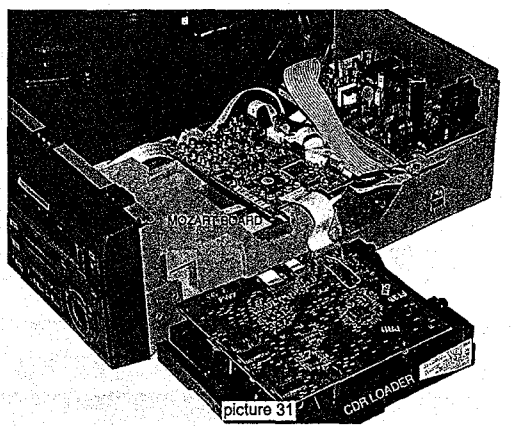
For dismantling instructions see chapter 4-6.



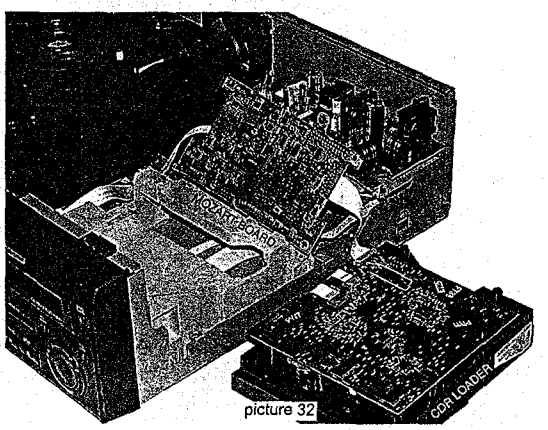
picture 30

Service position *MOZART Board*
(Back-end)

For dismantling instructions see chapter 4-6.



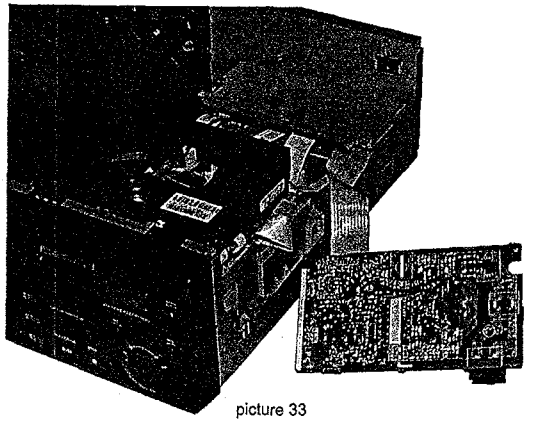
picture 31



picture 32

Service position *Power Board*

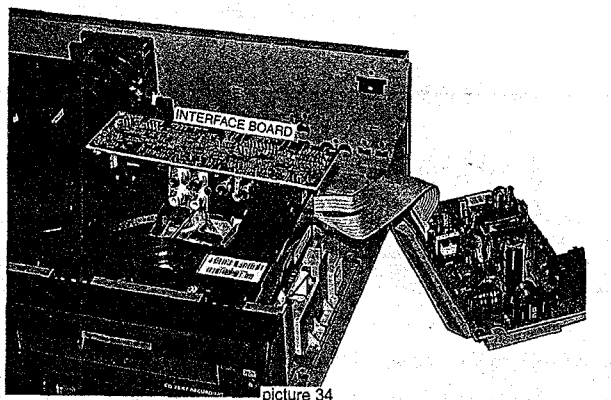
For dismantling instructions see chapter 4-7.



picture 33

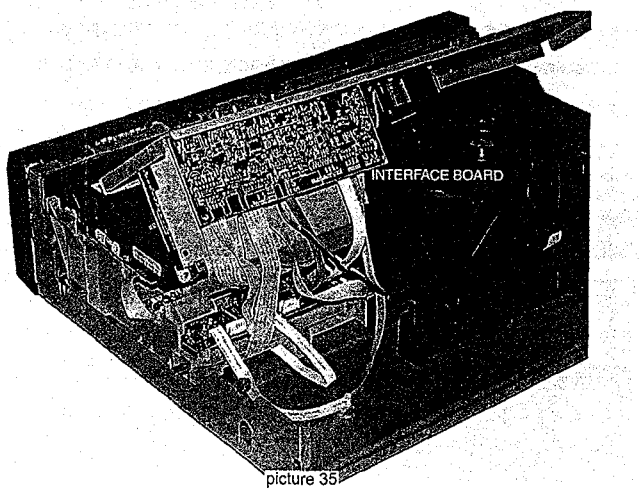
Service position *Interface Board*

For dismantling instructions see chapter 4-8.



picture 34

For dismantling instructions see chapter 4-9.



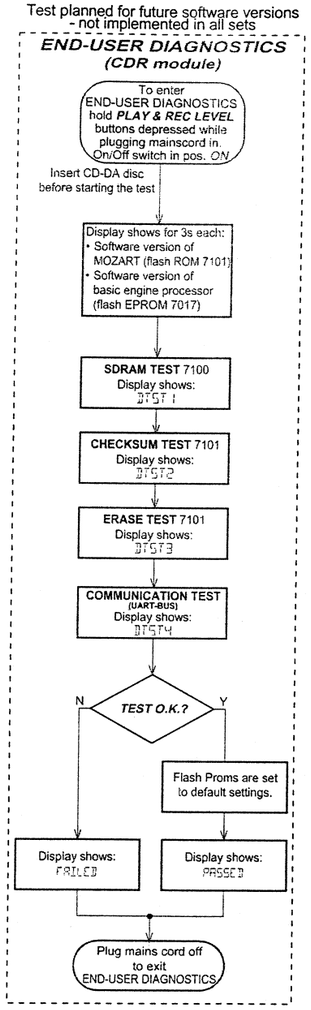
picture 35

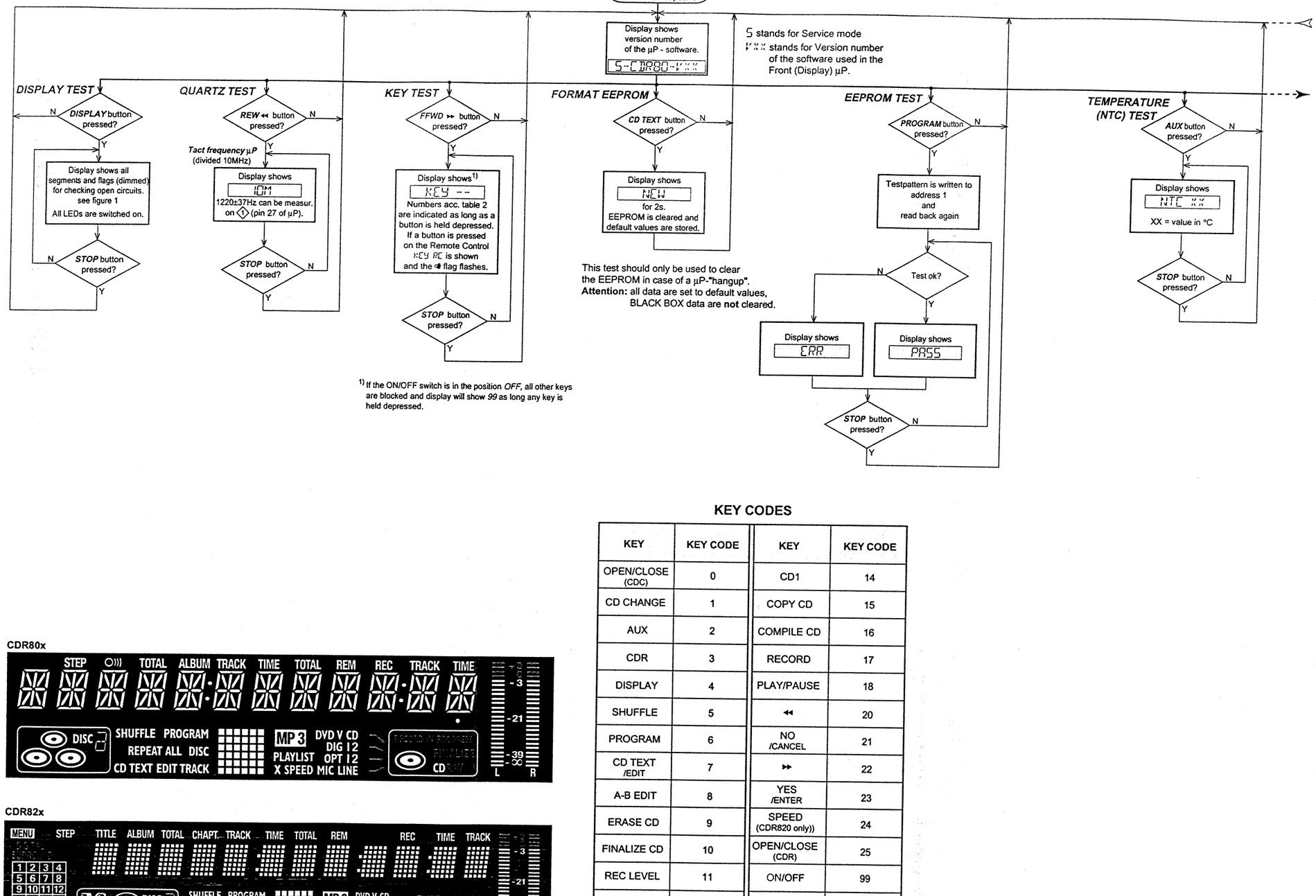
5-6

SERVICE TESTPROGRAM

VARIOUS TEST

Test planned for future software versions - not implemented in all sets


END-USER DIAGNOSTICS
(CDR module)
To enter END-USER DIAGNOSTICS hold PLAY & REC LEVEL buttons depressed while plugging mainscord in. On/Off switch in pos. ON.
Insert CD-DA disc before starting the test
Display shows for 3s each:
• Software version of MOZART (flash ROM 7101)
• Software version of basic engine processor (flash EPROM 7017)
SDRAM TEST 7100
Display shows: DTST1
CHECKSUM TEST 7101
Display shows: DTST2
ERASE TEST 7101
Display shows: DTST3
COMMUNICATION TEST (UART-BUS)
Display shows: DTST4
TEST O.K.?
N
Y
Flash Proms are set to default settings.
Display shows: FAILED
Display shows: PASSED
Plug mains cord off to exit END-USER DIAGNOSTICS


To enter Service Testprogram hold PLAY & CD3 buttons depressed while plugging mainscord in. On/Off switch in pos. ON
• To leave Service Testprogram plug mains cord off.
• In the main menu the sound settings (volume, ...), trays and carousel work as in normal mode.
Display shows version number of the µP - software.
S-CDR800-Vxx
S stands for Service mode
Vxx stands for Version number of the software used in the Front (Display) µP.
DISPLAY TEST
DISPLAY button pressed?
Display shows all segments and flags (dimmed) for checking open circuits. see figure 1
All LEDs are switched on.
STOP button pressed?
QUARTZ TEST
REW button pressed?
Tact frequency µP (divided 10MHz)
Display shows 10M
1220±37Hz can be measur. on 1 (pin 27 of µP).
STOP button pressed?
KEY TEST
FFWD button pressed?
Display shows[1] KEY --
Numbers acc. table 2 are indicated as long as a button is held depressed.
If a button is pressed on the Remote Control KEY RC is shown and the flag flashes.
STOP button pressed?
FORMAT EEPROM
CD TEXT button pressed?
Display shows NEW for 2s.
EEPROM is cleared and default values are stored.
This test should only be used to clear the EEPROM in case of a µP-"hangup".
Attention: all data are set to default values, BLACK BOX data are not cleared.
EEPROM TEST
PROGRAM button pressed?
Testpattern is written to address 1 and read back again
Test ok?
Display shows ERR
Display shows PASS
STOP button pressed?
TEMPERATURE (NTC) TEST
AUX button pressed?
Display shows NTC XX
XX = value in °C
STOP button pressed?

[1] If the ON/OFF switch is in the position *OFF*, all other keys are blocked and display will show *99* as long any key is held depressed.

CDR80x

CDR82x

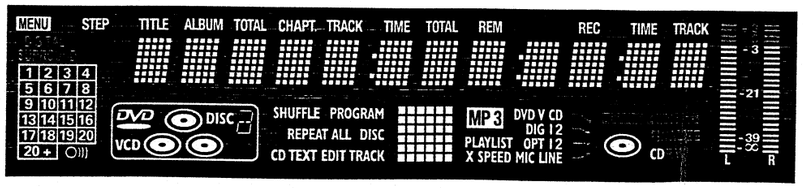


fig. 1

KEY CODES

KEY	KEY CODE	KEY	KEY CODE
OPEN/CLOSE (CDC)	0	CD1	14
CD CHANGE	1	COPY CD	15
AUX	2	COMPILE CD	16
CDR	3	RECORD	17
DISPLAY	4	PLAY/PAUSE	18
SHUFFLE	5	◂◂	20
PROGRAM	6	NO /CANCEL	21
CD TEXT /EDIT	7	▸▸	22
A-B EDIT	8	YES /ENTER	23
ERASE CD	9	SPEED (CDR820 only))	24
FINALIZE CD	10	OPEN/CLOSE (CDR)	25
REC LEVEL	11	ON/OFF	99
CD3	12	STOP	exit test
CD2	13		

table 2

5-7

SERVICE TESTPROGRAM
CDR MODULE

- To leave Service Testprogram plug mains cord off.
- In the main menu the sound settings (volume, ...), trays and carousel work as in normal mode.

To enter Service Testprogram hold *PLAY & CD3* buttons depressed while plugging mainscord in. On/Off switch in pos. *ON*

Display shows version number of the µP - software.
Display: S-C BRDG-Vxxx

S stands for Service mode
Vxxx stands for Version number of the software used in the Front (Display) µP.

CDR ELECTRICAL TEST
CDR button pressed? (N / Y)
Insert CD-DA disc before starting the test

MODULE INFORMATION
Display shows for 5s:
MO xxxx Bxxxx
- MO xxxx stands for Software version of MOZART (flash ROM 7101)
- Bxxxx stands for Software version of Basic engine processor (flash EPROM 7017)

MOZART BOARD DIAGNOSTIC

SDRAM TEST 7100
Display shows: DTST1
FFWD ▸▸ button pressed? (N / Y)

CHECKSUM TEST 7101
Display shows: DTST2
FFWD ▸▸ button pressed? (N / Y)

ERASE TEST 7101
Display shows: DTST3

COMMUNICATION TEST (UART-BUS)
Display shows: DTST4
FFWD ▸▸ button pressed? (N / Y)

TEST O.K.? (N / Y)
Display shows: ERRP n
n=number of failed test
FFWD ▸▸ button pressed? (N / Y)
all errors shown? (N / Y)
Display shows next error

CDR - LOADER TEST

CD-DA disc inserted? (N / Y)
Display shows: NO DISC
FFWD ▸▸ button pressed? (N / Y)

Display shows actual playing time.
The test is performed by playing 5s at beginning, 5s in the middle and 5s at the end of the disc.

TEST O.K.? (N / Y)
Display shows: SCRP 1
FFWD ▸▸ button pressed? (N / Y)

Display shows: PASSED for 3s

Exit CDR electrical Test
Exit CDR electrical Test

CDR MECHANICAL TEST
for visual inspection only

FINALIZE button pressed? (N / Y)

FOCUS TEST	SLIDE TEST	TRAY TEST	TURNTABLE TEST
STOP button pressed? (N / Y)			
Exit Mech. Testprogram			
PLAY button pressed? (N / Y)	*NEXT* ▸▸ button pressed? (N / Y)	*OPEN/CLOSE* button pressed? (N / Y)	*YES* button pressed? (N / Y)
Objective moves continuously up/down. Display shows: FOCUS	Slide moves continuously in/out. Display shows: SLIDE	Tray opens. Display shows: OPEN (even when tray is blocked)	Turntable motor is switched on. Display shows: DISC
PREV ◂◂ button pressed? (N / Y)	*PREV* ◂◂ button pressed? (N / Y)	*OPEN/CLOSE* button pressed? (N / Y)	*PREV* ◂◂ button pressed? (N / Y)
Focus servo is switched off.	Dependent on the moving direction, slide moves to inner or outer end position.	Tray closes. Display shows: CLOSE (even when tray is blocked)	Turntable motor is switched off.

CDR DC-ERASE MODE
ERASE CD button pressed? (N / Y)
CD-RW disc inserted? (N → Display shows: WRONG DISC or NO DISC; STOP button pressed? (N / Y))
Complete disc will be erased with double speed. (starting from PMA-area up to and including ATIP leadout area)
The display shows the countdown of the remaining time required to complete the operation:
ER mm ss
mm: remaining minutes
ss: remaining seconds
Disc erased? (N / Y)
Display shows: PASSED
STOP button pressed? (N / Y)
Exit DC-ERASE Mode

Note: With the DC-Erase mode the CD-RW can be changed back in its original state, like a new disc. Stopping the erase-function by switching power off will leave the disc in an unpredictable status!

BURN IN MODE CDR MODULE
RECORD button pressed? (N / Y)
CD-RW disc inserted? (N → Display shows: WRONG DISC or NO DISC; STOP button pressed? (N / Y))
DC-ERASE MODE starts. Display shows: HH BI RE FE [1]
DC-ERASE finished? (N / Y)
Record complete disc from analog source with normal speed. Display shows: HH BI RE FE [1]
Error detected? (N / Y)
Complete disc recorded? (N / Y)
Finalize disc with double speed. Display shows: HH BI RE FE [1]

HH stands for the number of hours the test was running
BI stands for Burn In test
RE number of errors detected during DC erase and write mode
FE number of errors detected during Finalizing the disc

Note: The BURN-IN mode is an endless cycle of
- DC erase, to erase the CD-RW disc with max. laser power
- Recording a CD-RW disc with speed N=1
- and Finalizing with double speed

This test is intended to check the quality of a CDR loader and to detect intermittent failures.

[1] With the *DISPLAY* button the info on the display can be toggled to indicate either the status of burn in test or the temperature measured via the NTC.

TESTS PLANNED FOR FUTURE SOFTWARE VERSIONS
- NOT IMPLEMENTED IN ALL SETS

5-8

SERVICE TESTPROGRAM

3CDC MODULE

To enter Service Testprogram hold ***PLAY & CD3*** buttons depressed while plugging mainscord in. On/Off switch in pos. *ON*.

- To leave Service Testprogram plug mains cord off.
- In the main menu the sound settings (volume, ...), trays and carousel work as in normal mode.

Display shows version number of the µP - software.

5 stands for Service mode

V x.x stands for Version number of the software used in the Front (Display) µP.

TESTS PLANNED FOR FUTURE SOFTWARE VERSIONS - NOT IMPLEMENTED IN ALL SETS

CD or CDC LOADER TEST

CD1 button pressed?

CD-DA disc inserted?

Display shows: WRONG DISC or NO DISC

OPEN/CLOSE button pressed?

Tray opens

Display shows actual playing time. The test is performed by playing 5s at beginning, 5s in the middle and 5s at the end of the disc.

TEST O.K.?

Display shows: BEAR !

FFWD ▸▸ button pressed?

Display shows: PASSED for 3s

Exit CD electrical Test

Exit CD electrical Test

CD or CDC MECHANICAL TEST

for visual inspection only

CD2 button pressed?

TURNTABLE TEST

YES button pressed?

Turntable motor is switched on. Display shows: DISC

PREV ◂◂ button pressed?

Turntable motor is switched off.

FOCUS TEST

PLAY button pressed?

Objective moves continuously up/down. Display shows: FOCUS

PREV ◂◂ button pressed?

Focus servo is switched off.

SLIDE TEST

NEXT ▸▸ button pressed?

Slide moves continuously in/out. Display shows: SLIDE

PREV ◂◂ button pressed?

Dependent on the moving direction, slide moves to inner or outer end position.

TRAY TEST

OPEN/CLOSE button pressed?

Tray opens. Display shows: OPEN (even when tray is blocked)

OPEN/CLOSE button pressed?

Tray closes. Display shows: CLOSE (even when tray is blocked)

STOP button pressed?

Exit Mech. Testprogram

CD PLAY TEST [1]

(CD BURN IN TEST)

CD3 button pressed?

CD is in normal *PLAY* mode. In case of failures error codes acc. table 1 will be indicated on the display. [2]

MAINS CORD plugged off?

Exit Service Testprogram

[1] The *CD PLAY TEST* is intended to be used for continuously playing a disc in order to detect intermittent or not reproducible failures. The error code indicates where the failure can be found.

[2] With the *DISPLAY* button the info on the display can be toggled to indicate either the status of *CD PLAY TEST* or the temperature measured via the NTC.

CD ERROR CODES

Error number	*Error description*	*Error type*
E1000	**Focus Error** Triggered when the focus is lost for more than 250ms while playing the CD.	W
E1001	**Radial error** Triggered when the radial servo is not on track for a certain time during playing the CD.	W
E1002	**Slide-in error** Generated when the inner-switch did not close within approx. 6s when the pick up is moved inside. Inner-switch or slide motor problems.	W
E1003	**Slide-out error** Generated when the inner-switch did not open within approx. 250ms when the pick up is moved from the inner position outside. Inner-switch or slide motor problems.	W
E1005	**Jump error.** Triggered when the servo processor counts too less tracks in a defined time during JUMPS. This can be caused by a disturbed HF-signal (the tracks cannot be recognized exactly), slide motor problems, track servo problems or scratched discs.	W
E1006	**Subcode Error** No valid subcode for 300ms during *PLAY*.	W
E1007	**PLL lock error** When no valid subcode was found within 300ms PLL is checked. If PLL is locked E1006 will be indicated else E1007 and the servo is stopped and restarted once again to recover (as if the user would have pressed *STOP* and then *PLAY* immediately).	W
E1008	**Disc motor error** Generated when the CD could not reach 75% of speed during startup within 1,2s.	W
E1020	**Focus Search Error** Triggered when the focus could not be found within 4s when starting up the CD.	F

table 1

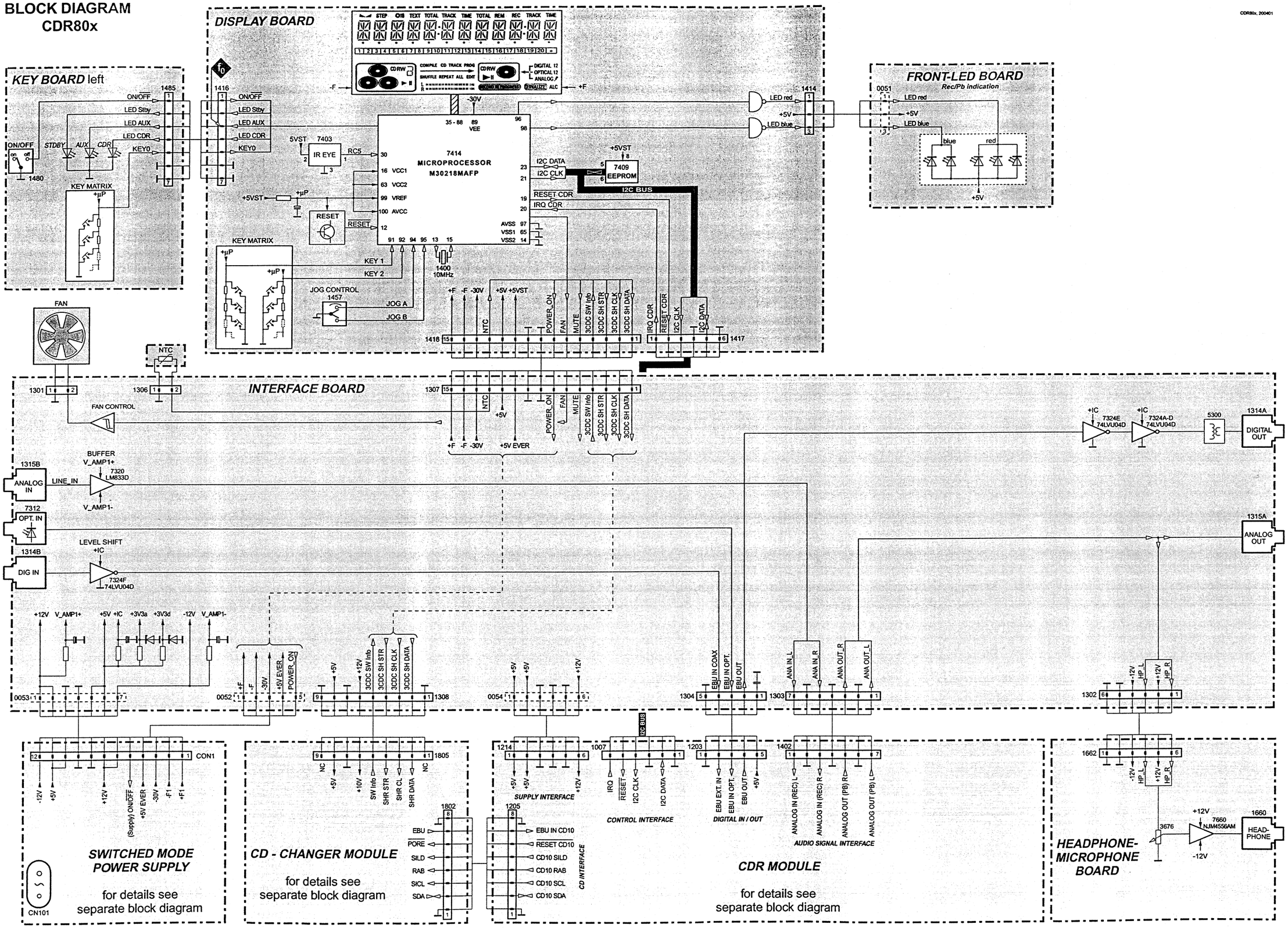
Error type: W = Warning → set continues operation, message remains on the display until next error occurs or any key is pressed.

F = Fatal Error → set stops operation, message remains on the display.

6-1

BLOCK DIAGRAM CDR80x

CDR80x_200401



6-2

BLOCK DIAGRAM
CDR82x

CDR82x_200401

DISPLAY BOARD

KEY BOARD left

FRONT-LED BOARD
Rec/Pb indication

INTERFACE BOARD

SWITCHED MODE POWER SUPPLY
for details see separate block diagram

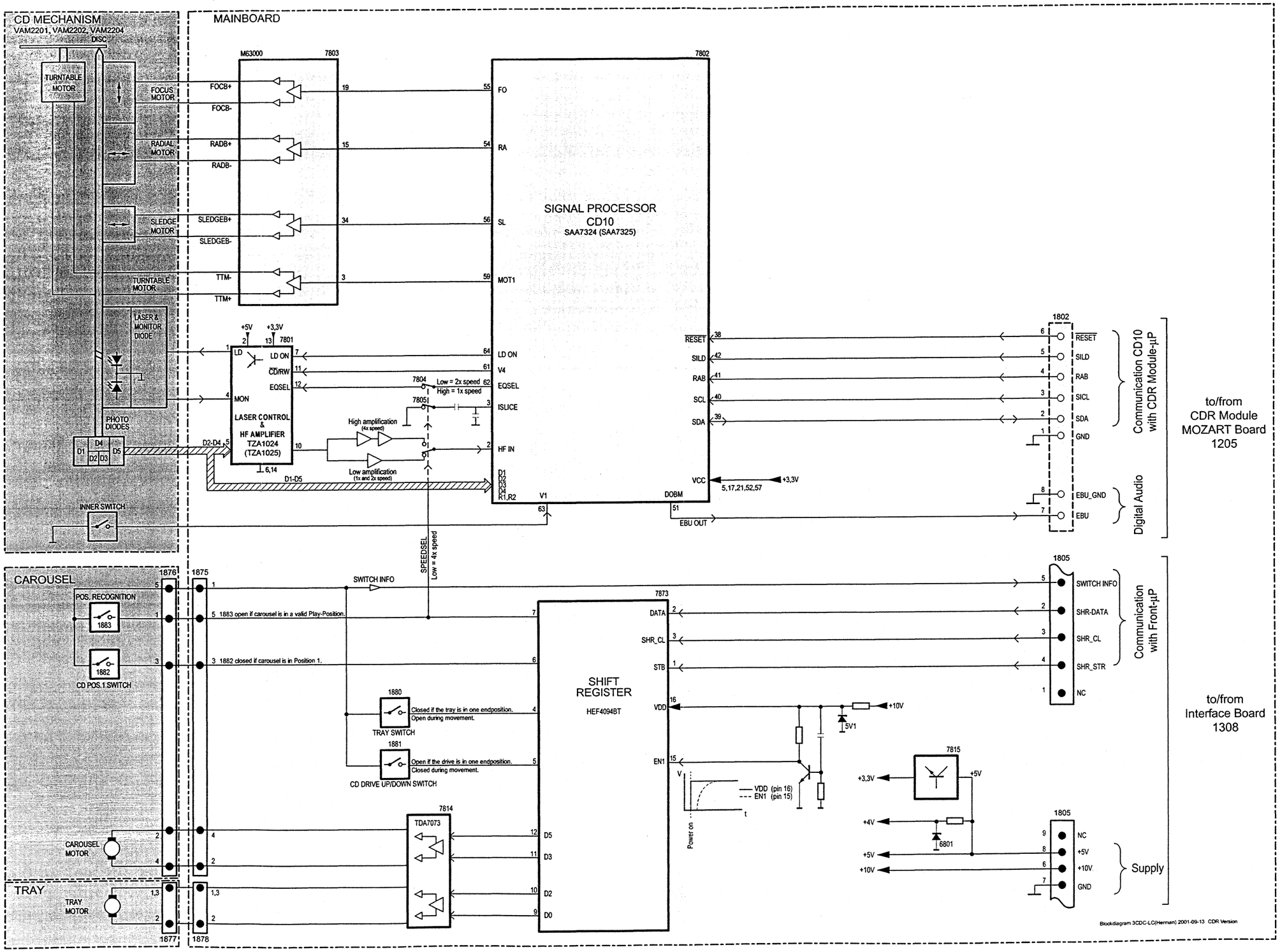
CD - CHANGER MODULE
for details see separate block diagram

CDR MODULE
for details see separate block diagram

HEADPHONE-MICROPHONE BOARD

6-3

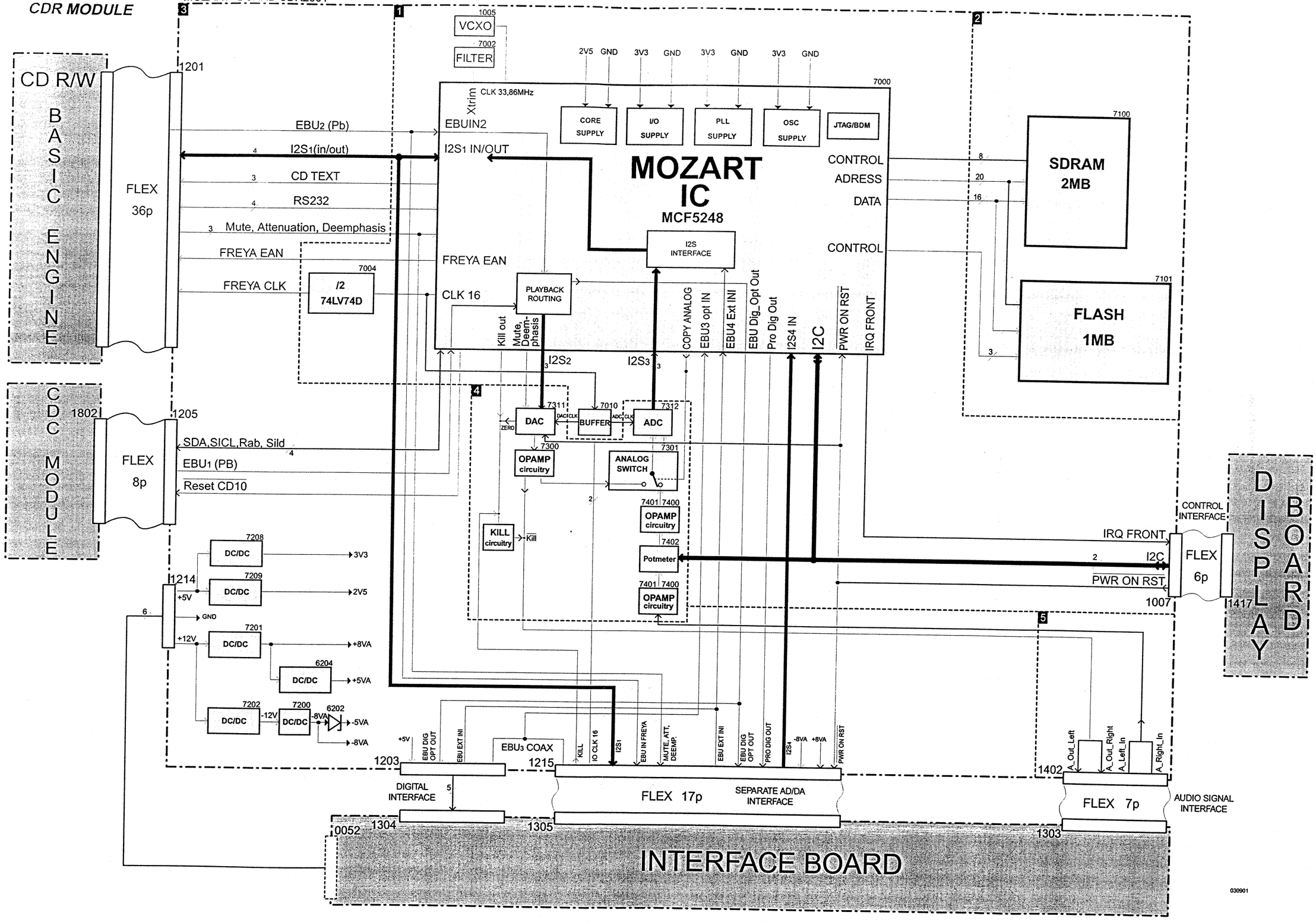
BLOCK DIAGRAM
3CDC MODULE



6-4

BLOCK DIAGRAM
CDR MODULE

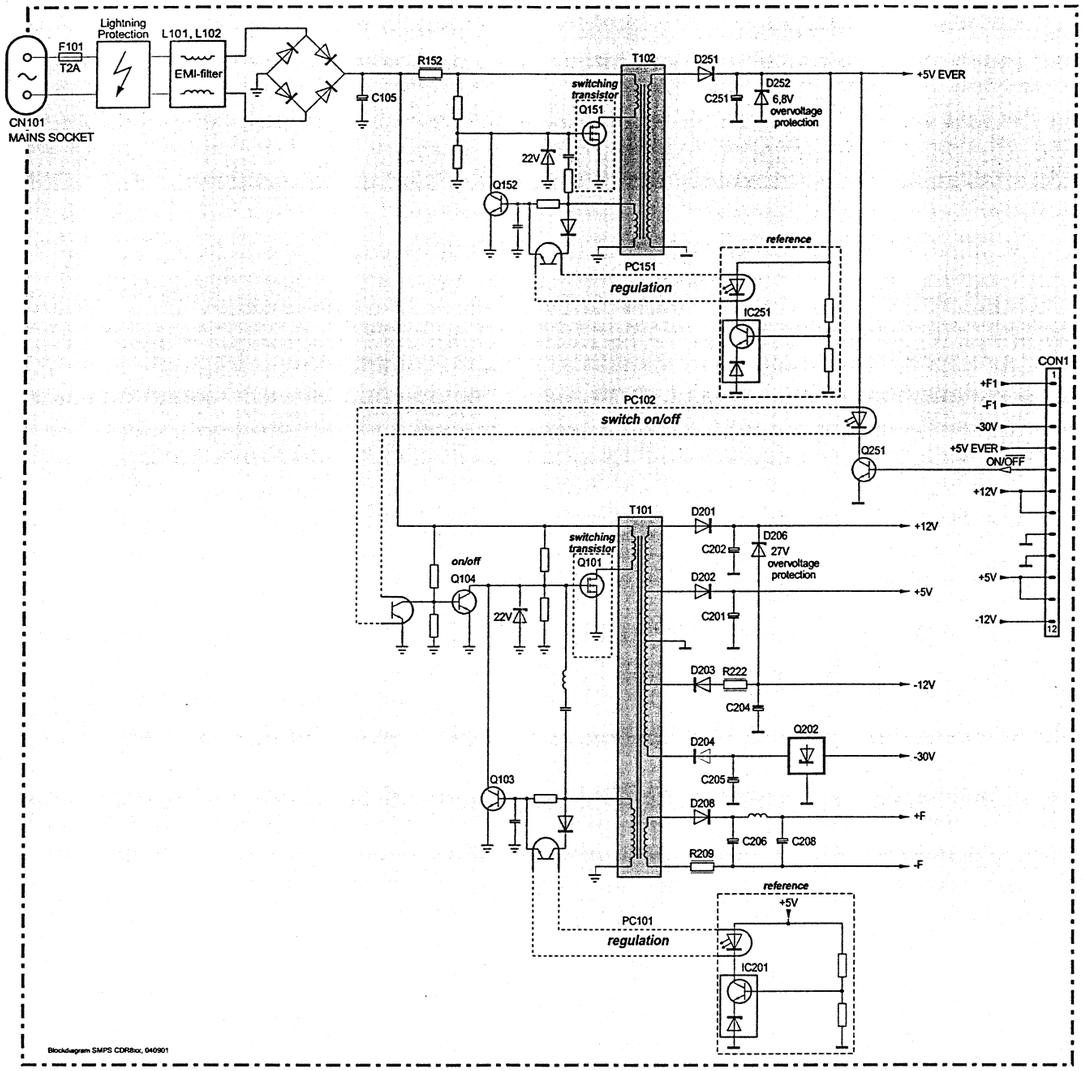
"MOZART" BOARD CDR2001



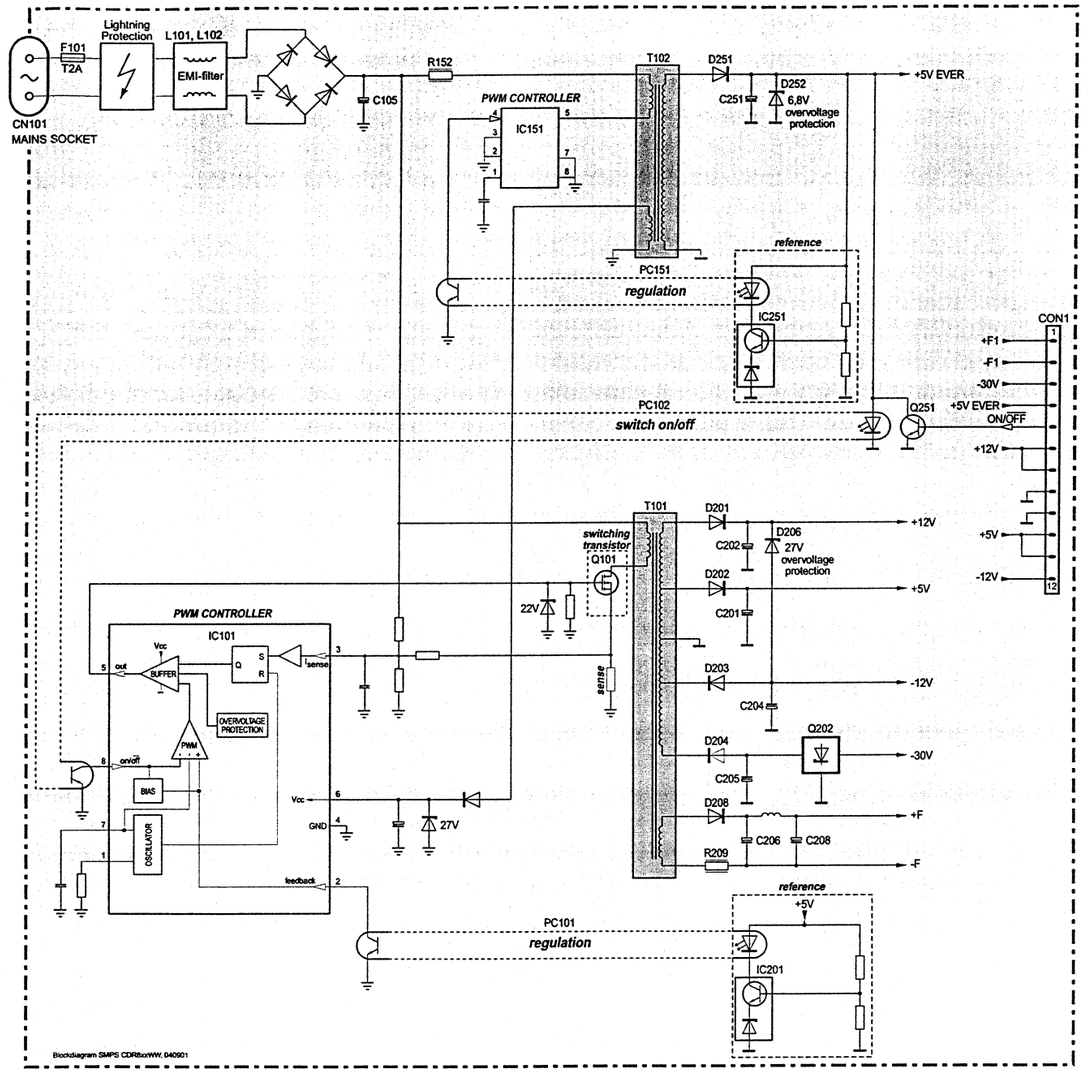
6-5

BLOCK DIAGRAM
POWER SUPPLY

BLOCK DIAGRAM
SWITCHED MODE POWER SUPPLY / European & USA version (/00 & /17)

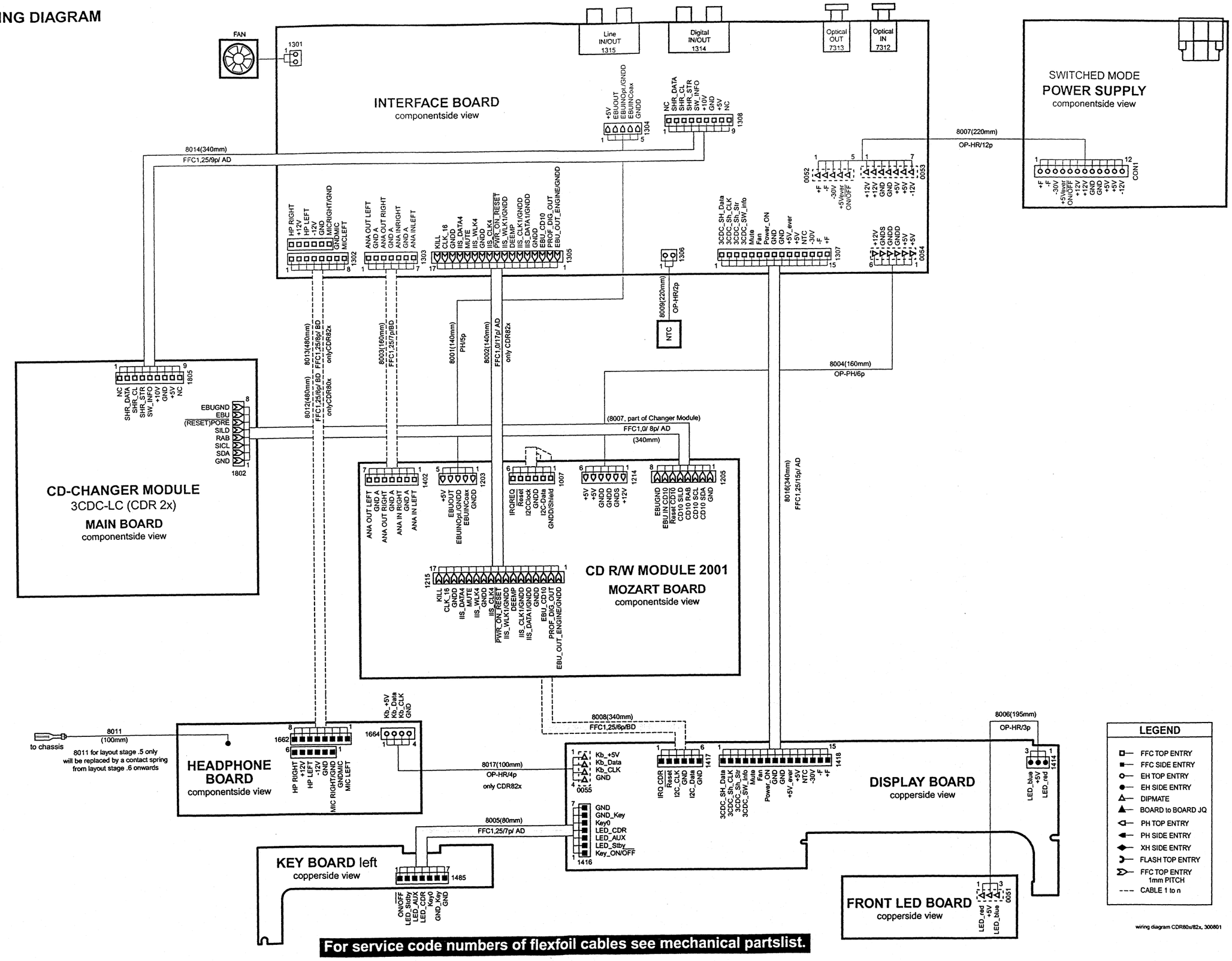


BLOCK DIAGRAM
SWITCHED MODE POWER SUPPLY / WorldWide version (/01)



6-6

WIRING DIAGRAM

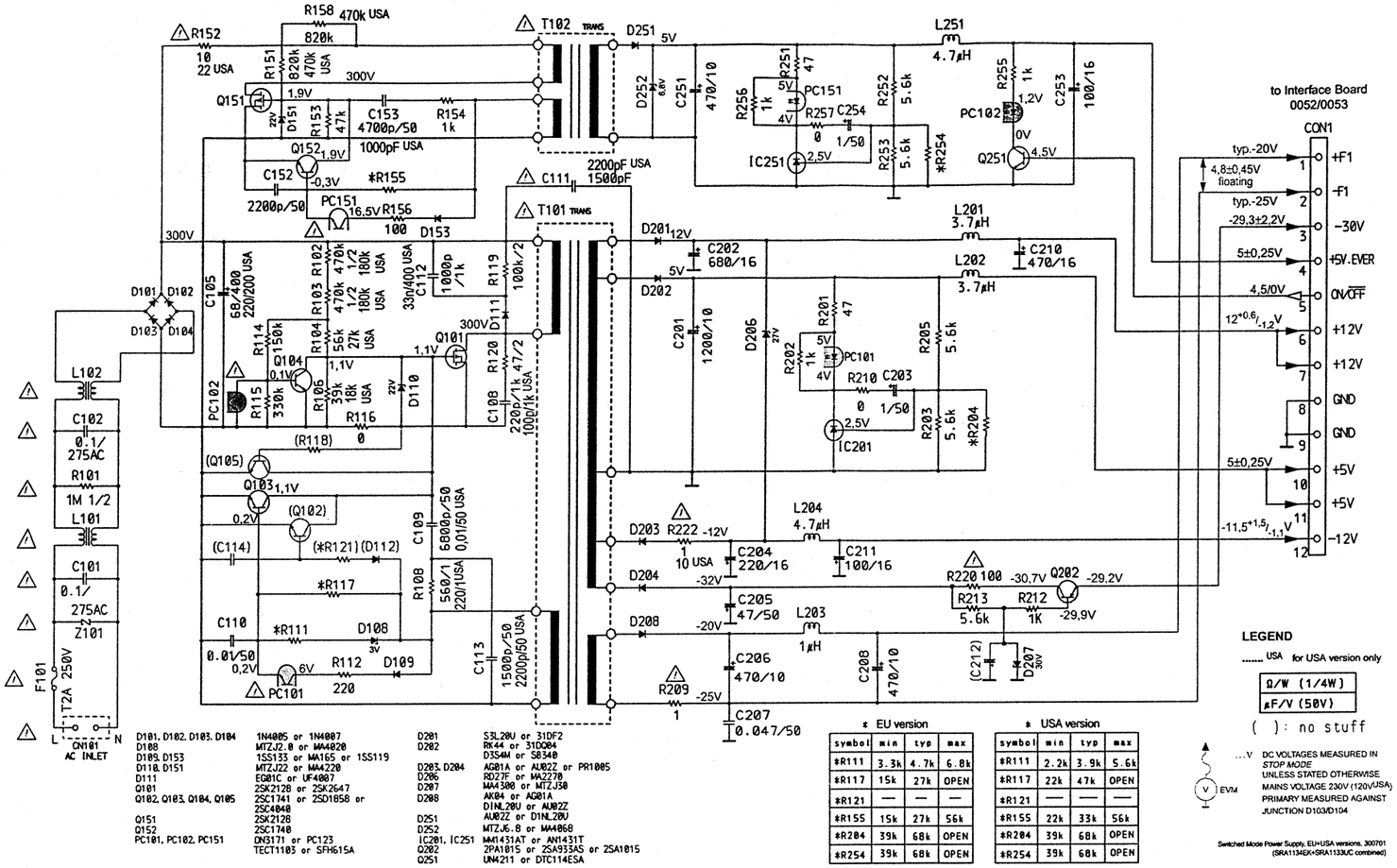


For service code numbers of flexfoil cables see mechanical partslist.

7-1

Switched Mode Power Supply / EU + USA version (/00/17)

for orientation only



D101, D102, D103, D104 1N4005 or 1N4007
D108 MTZJ2.0 or MA4020
D109, D153 1SS133 or MA165 or 1SS119
D110, D151 MTZJ22 or MA4220
D111 EG01C or UF4007
Q101 2SK2128 or 2SK2647
Q102, Q103, Q104, Q105 2SC1741 or 2SD1858 or 2SC4040
Q151 2SK2128
Q152 2SC1740
PC101, PC102, PC151 DX3171 or PC123 TECT1103 or SFH615A

D201 S3L20U or 31DF2
D202 RK44 or 31DQ04 D354M or SB340
D203, D204 AG01A or AU02Z or PR1005
D206 RD27F or MA2270
D207 MA4300 or MTZJ30
D208 AK04 or AG01A D1NL20U or AU02Z
D251 AU02Z or D1NL20U
D252 MTZJ5.6 or MA4056B
IC201, IC251 MM1431AT or AN1431T
Q202 2PA1015 or 2SA933AS or 2SA1015
Q251 UN4211 or DTC114ESA

* EU version

symbol	min	typ	max
*R111	3.3k	4.7k	6.8k
*R117	15k	27k	OPEN
*R121	—	—	—
*R155	15k	27k	56k
*R204	39k	68k	OPEN
*R254	39k	68k	OPEN

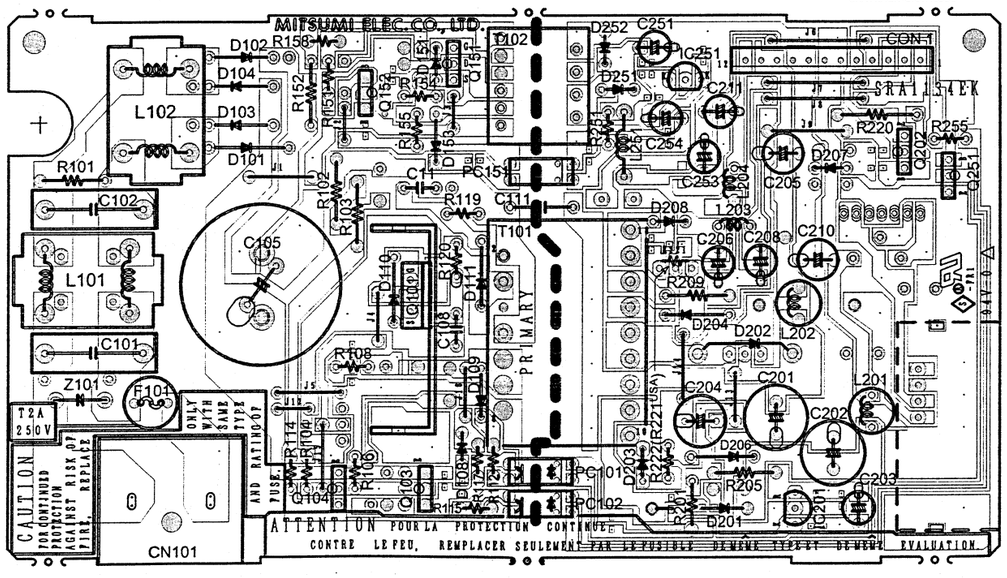
* USA version

symbol	min	typ	max
*R111	2.2k	3.9k	5.6k
*R117	22k	47k	OPEN
*R121	—	—	—
*R155	22k	33k	56k
*R204	39k	68k	OPEN
*R254	39k	68k	OPEN

POWER BOARD / component side view

USA and European version

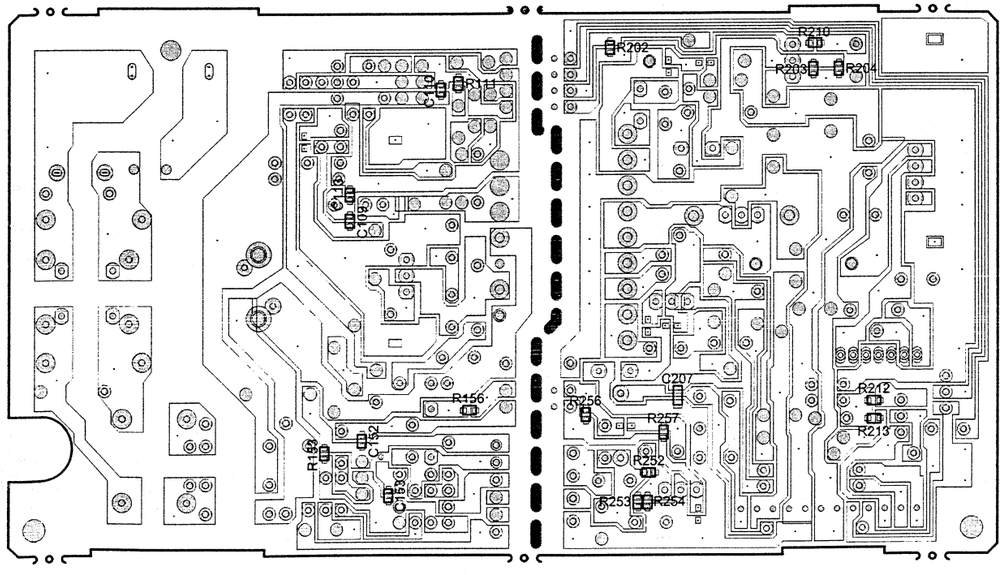
SMPS CDR8xx,EU+USA, 300701
SRA1134EK+SRA1133UC



POWER BOARD / copper side view

USA and European version

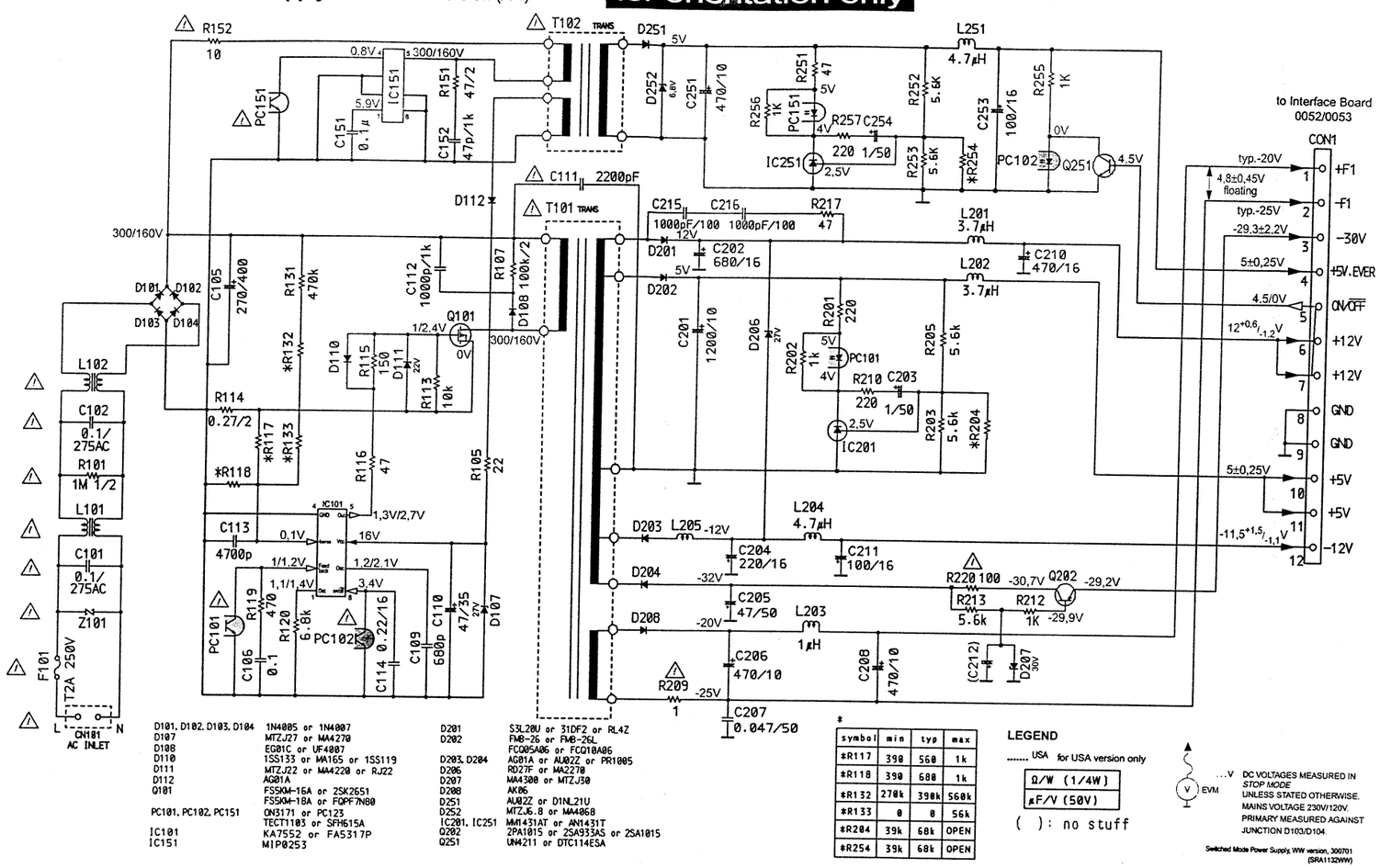
SMPS CDR8xx,EU+USA, 300701
SRA1134EK+SRA1133UC



7-2

Switched Mode Power Supply / World Wide version (/01)

for orientation only



D101, D102, D103, D104 1N4005 or 1N4007
D107 MTZJ27 or MA4270
D108 EG01C or UF4007
D110 1SS133 or MA165 or 1SS119
D111 MTZJ22 or MA4220 or RJZ2
D112 AG01A
Q101 FSSKM-16A or 2SK2651
FSSKM-18A or FQPF7N80
PC101, PC102, PC151 ON3171 or PC123
TECT1103 or SFH615A
IC101 KA7552 or FA5317P
IC151 MIP0253

D201 S3L20U or 31DF2 or RL4Z
D202 FMB-26 or FMB-26L
FCQ05A06 or FCQ10A06
D203, D204 AG01A or AU02Z or PR1005
D206 MTZJ7F or MA2270
D207 MA4300 or MTZJ30
D208 AK06
D251 AU02Z or D1NL21U
D252 MTZJ6.8 or MA4068
IC201, IC251 MM1431AT or AN1431T
Q202 2PA1015 or 2SA933AS or 2SA1015
Q251 UN4211 or DTC114ESA

*

symbol	min	typ	max
*R117	390	560	1k
*R118	390	680	1k
*R132	270k	390k	560k
*R133	0	0	56k
*R204	39k	68k	OPEN
*R254	39k	68k	OPEN

LEGEND

..... USA for USA version only

Ω/W (1/4W)

µF/V (50V)

( ): no stuff

...V DC VOLTAGES MEASURED IN STOP MODE UNLESS STATED OTHERWISE. MAINS VOLTAGE 230V/120V. PRIMARY MEASURED AGAINST JUNCTION D103/D104.

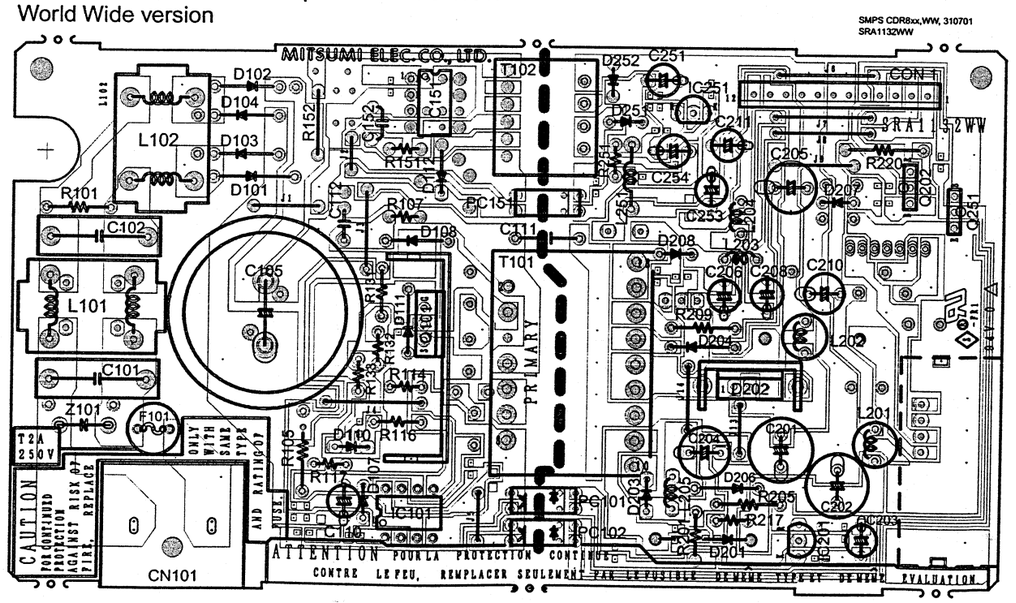
EVM

Switched Mode Power Supply, WW version, 300701 (SRA1132WW)

POWER BOARD / component side view

World Wide version

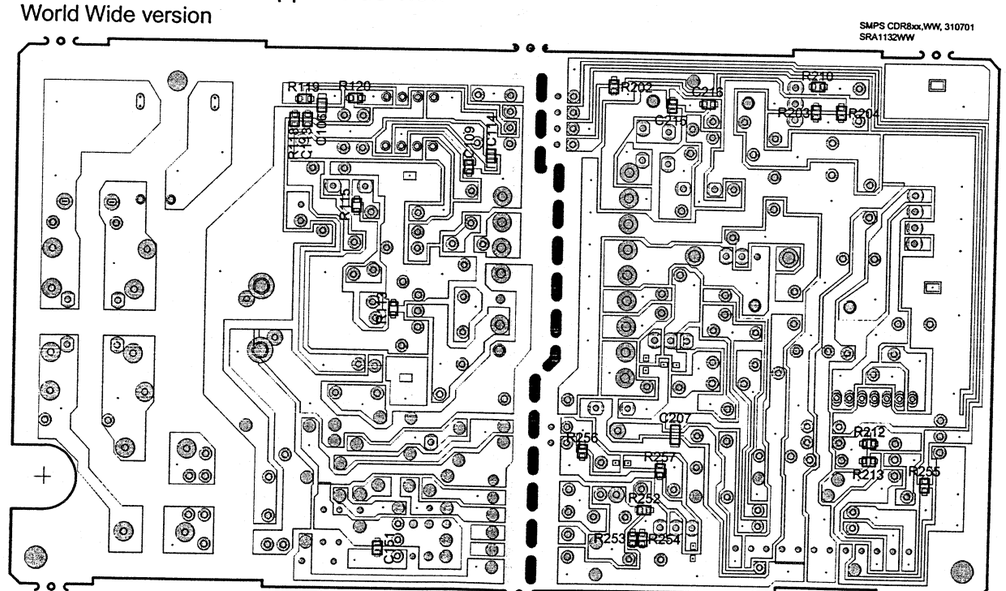
SMPS CDR8xx,WW, 310701
SRA1132WW



POWER BOARD / copper side view

World Wide version

SMPS CDR8xx,WW, 310701
SRA1132WW



7-3

DISPLAY BOARD

GRID BUFFERS for CDR82x only

** CDR80x: 3474= 3,9 Ohm
CDR82x: 3474= 0 Ohm

* CDR80x: 3514, 3515 = 0 Ohm
CDR82x: 3514, 3515 = 120 Ohm

7402

7414 M30218MAFP

PORT P0 / PORT P1 / PORT 5 / PORT P2 / PORT P3 / PORT P4 / PORT P6

FTD DRIVER

M30218MAFP

RAM / ROM / CPU / CLOCK

PORT 7 / PORT P8 / PORT P9 / PORT P10

pins 35-88 measured in ServiceTestprogram - DISPLAY TEST (all segments and flags on)

RESET

Use service testprogram: QUARTZ TEST oscillator frequency can be measured at this point (10 MHz. divided to 1220 Hz)

from/to_Interface_Board 1307

from/to_CD_R/W_Module 1007

from/to_Key_Left_Board 1485

to_Front_LED_Board 0051

from/to_Mic/Headphone_Board 1664

EEPROM

IR EYE

ROTARY ENCODER

KEY LIGHTING

for CDR82x only

DC VOLTAGES MEASURED IN *STOP MODE* UNLESS STATED OTHERWISE
.../...V on/off

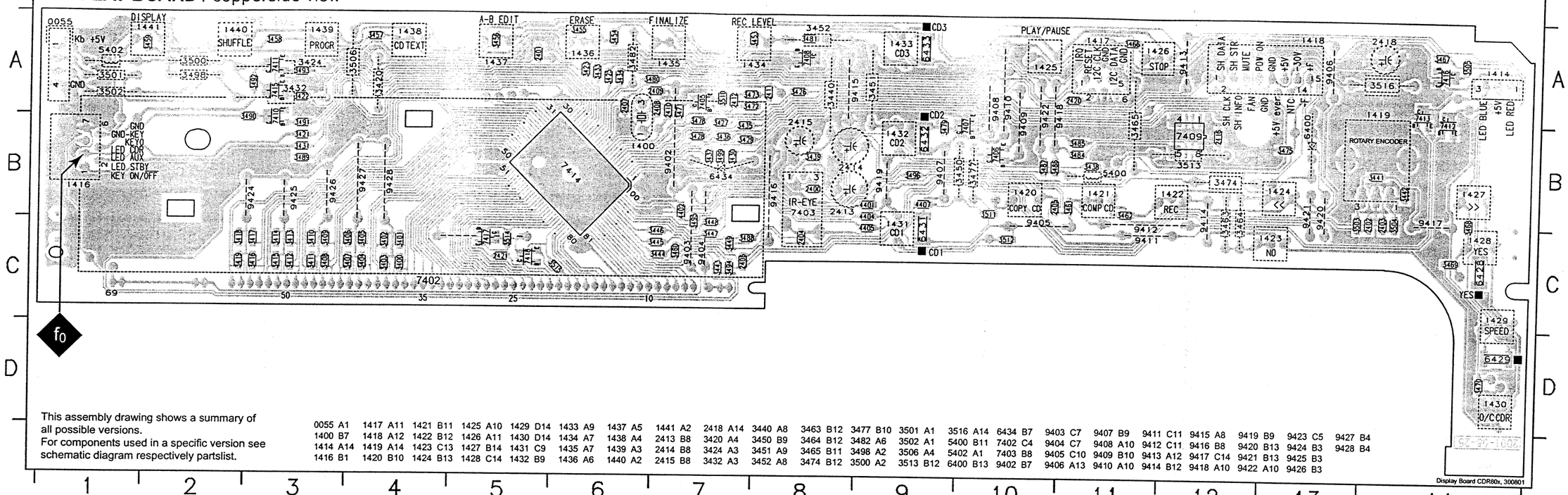
Front/Display CDR8xx, 120901

0055 J15 3478 K5
1400 F11 3479 K8
1414 I15 3480 K8
1416 F15 3481 K10
1417 D15 3482 K9
1418 A15 3484 J2
1419 I9 3485 K2
1420 G12 3486 J2
1421 H13 3487 K2
1422 H13 3488 C15
1423 H13 3489 F14
1424 I13 3490 G14
1425 I13 3491 H14
1426 J13 3492 G15
1427 J13 3493 H14
1428 K13 3494 H15
1429 K13 3495 I14
1430 K13 3496 I14
1431 G13 3498 J14
1432 H12 3499 I8
1433 H12 3500 J15
1434 H12 3501 K14
1435 I12 3502 K15
1436 I12 3503 I10
1437 J12 3504 I10
1438 J12 3505 K5
1439 K12 3506 K4
1440 K12 3510 E12
1441 K12 3511 G11
2400 I4 3512 G12
2401 J4 3513 I1
2402 J10 3514 B1
2403 J10 3515 B2
2404 G12 3516 C13
2405 G13 5400 B13
2406 E11 5402 J15
2407 E10 6400 A11
2408 F10 6428 K7
2409 F11 6429 K5
2410 F12 6431 K6
2411 E13 6432 K9
2412 F12 6433 K10
2413 B4 6434 I9
2414 B11 7402 A10
2415 B13 7403 I3
2416 J1 7405 E12
2418 C13 7406 K6
2420 D15 7407 K8
2421 A2 7408 K9
3400 C1 7409 J1
3401 C1 7410 G13
3402 C1 7411 G15
3403 D1 7412 I14
3404 D1 7413 I15
3405 D1 7414 C9
3406 D1 7415 K15
3407 D1 7416 K4
3408 E1 7417 A1
3409 E1 7418 A2
3410 E1 F400 G2
3411 E1 F401 G3
3412 E1 F402 G2
3413 E1 F403 G3
3414 F1 F404 H3
3415 F1 F405 H3
3416 F1 F406 B11
3417 F1 F407 E10
3418 F1 F408 F10
3419 G1 F409 J4
3420 I5 F410 A4
3421 I5 F411 B11
3422 K14 F412 A15
3423 I6 F413 A15
3424 I6 F414 B15
3425 I6 F415 B15
3426 I7 F416 B15
3427 I8 F417 B15
3428 I8 F418 B15
3429 I8 F419 B15
3430 J8 F420 C15
3431 I5 F421 C15
3432 I5 F422 C15
3433 I6 F423 C15
3434 I7 F424 C15
3435 I8 F425 D15
3436 I8 F426 G12
3437 J9 F427 G13
3438 I4 F428 H11
3439 I4 F429 H12
3440 J4 F430 H11
3441 I10 F431 H12
3442 I9 F433 I12
3443 G10 F434 I11
3444 G10 F435 I12
3445 G10 F436 I11
3446 G10 F437 I12
3447 G10 F438 J11
3448 G10 F439 J12
3449 G11 F440 J11
3450 H11 F441 J12
3451 H11 F442 K11
3452 H11 F443 K12
3453 I11 F444 K11
3454 I11 F445 K12
3455 J11 F446 K11
3456 J11 F447 K12
3457 J11 F448 J15
3458 K11 F449 K15
3459 K11 F450 K15
3460 G12 F451 K15
3461 H12 F452 I15
3462 H12 F453 I15
3463 I12 F454 I15
3464 I12 F455 G15
3465 I12 F456 G15
3466 J12 F457 G15
3467 J12 F458 G15
3468 J12 F459 G15
3469 K12 F460 G15
3470 K12 F461 H15
3471 E12 F462 E15
3472 F13 F463 E15
3473 F13 F464 E15
3474 A4 F465 E15
3475 B11 F466 E15
3477 K6

7-4

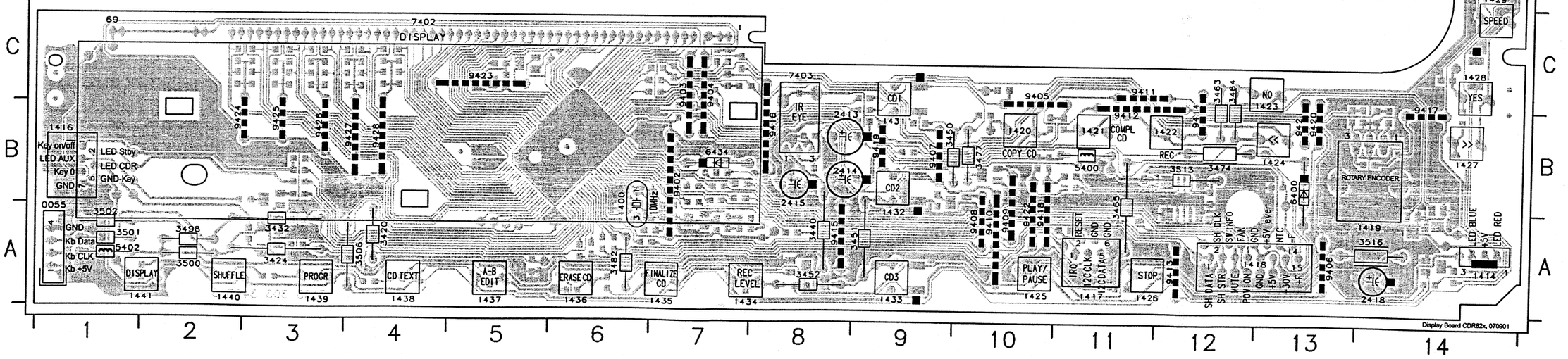
2400 B8 2401 A5 2402 B14 2403 B14 2404 C8
2405 B10 2406 C7 2407 A6 2408 A7 2409 A7
2410 A7 2411 A8 2412 A7 2416 B12 2420 A11
2421 C5 3400 C4 3401 C4 3402 C4 3403 C4
3404 C4 3405 C4 3406 C4 3407 C4 3408 C3
3409 C3 3410 C3 3411 C3 3412 C3 3413 C3
3414 C3 3415 C3 3416 C3 3417 C3 3418 C2
3419 C2 3421 B3 3422 A3 3423 A6 3425 A6
3426 A8 3427 B7 3428 B7 3429 B7 3430 B7
3431 B3 3433 A6 3434 A6 3435 B7 3436 B7
3437 B7 3438 B11 3439 B8 3441 B14 3442 B14
3443 C7 3444 C7 3445 C7 3446 C7 3447 C7
3448 C7 3449 C7 3453 A7 3454 A6 3455 A6
3456 A5 3457 A4 3458 A3 3459 A2 3460 C7
3461 B11 3462 B11 3466 A11 3467 B14 3468 B14
3469 C14 3470 D14 3471 A7 3472 A7 3473 A7
3475 B13 3478 B7 3479 B9 3480 A6 3481 A8
3484 B11 3485 B11 3486 B10 3487 B10 3488 C7
3489 B3 3490 B3 3491 B3 3492 A3 3493 A3
3494 C7 3495 C7 3496 B9 3499 B7 3503 B13
3504 B14 3505 A14 3510 A7 3511 B10 3512 C10
3514 C5 3515 C6 4401 B9 4402 B7 4404 B9
4405 C9 4407 B9 4429 D14 4431 C9
6432 B9 6433 A9 7405 A7 7406 B10 7407 B10
7408 A8 7409 B12 7411 A3 7412 A14 7413 A14
7414 B6 7415 A3 7416 A14 7417 C5 7418 C5

DISPLAY BOARD / copperside view



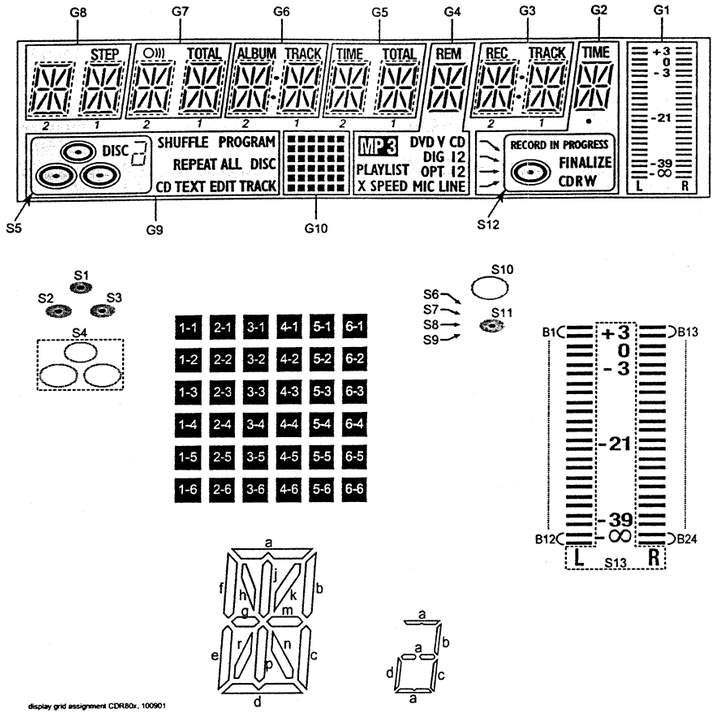
0055 A1 1400 B7 1414 A14 1416 B1
1417 A11 1418 A12 1419 A14 1420 B10
1421 B11 1422 B12 1423 C13 1424 B13
1425 A10 1426 A11 1427 B14 1428 C14
1429 D14 1430 D14 1431 C9 1432 B9
1433 A9 1434 A7 1435 A7 1436 A6
1437 A5 1438 A4 1439 A3 1440 A2
1441 A2 2413 B8 2414 B8 2415 B8
2418 A14 3420 A4 3424 A3 3432 A3
3440 A8 3450 B9 3451 A9 3452 A8
3463 B12 3464 B12 3465 B11 3474 B12
3477 B10 3482 A6 3498 A2 3500 A2
3501 A1 3502 A1 3506 A4 3513 B12
3516 A14 5400 B11 5402 A1 6400 B13
6434 B7 7402 C4 7403 B8 9402 B7
9403 C7 9404 C7 9405 C10 9406 A13
9407 B9 9408 A10 9409 B10 9410 A10
9411 C11 9412 C11 9413 A12 9414 B12
9415 A8 9416 B8 9417 C14 9418 A10
9419 B9 9420 B13 9421 B13 9422 A10
9423 C5 9424 B3 9425 B3 9426 B3
9427 B4 9428 B4

DISPLAY BOARD / componentside view



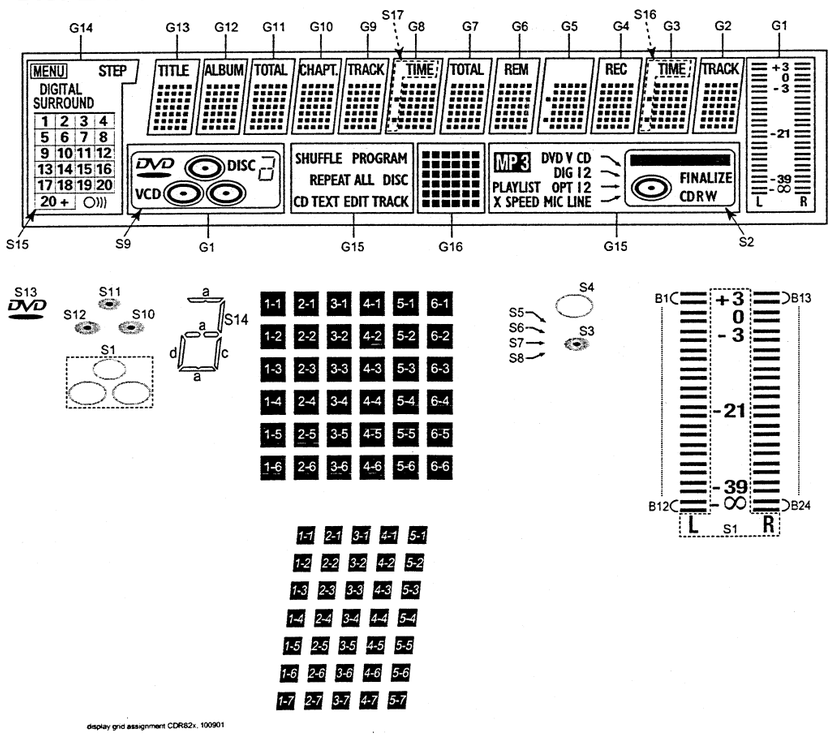
7-5

DISPLAY CONNECTION CDR80x

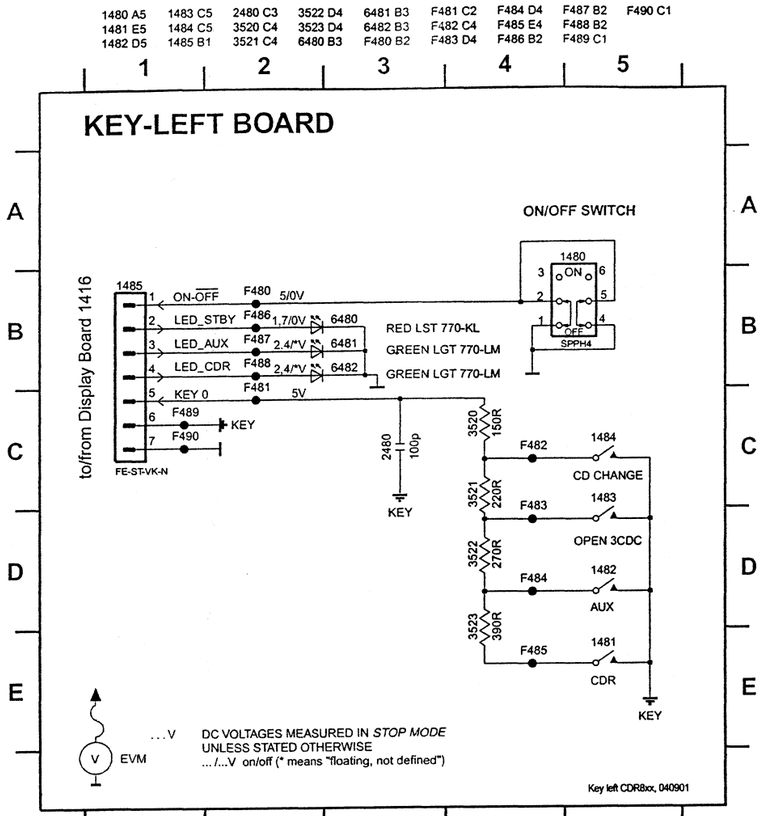

G8 G7 G6 G5 G4 G3 G2 G1
STEP TOTAL ALBUM TRACK TIME TOTAL REM REC TRACK TIME
DISC
SHUFFLE PROGRAM
REPEAT ALL DISC
CD TEXT EDIT TRACK
MP3 DVD V CD DIG I2 PLAYLIST OPT I2 X SPEED MIC LINE
RECORD IN PROGRESS FINALIZE CDRW
+3 0 - 3 -21 -39 -∞ L R
S5 G9 G10 S12
S1 S2 S3 S4
S10 S6 S7 S8 S9 S11
1-1 2-1 3-1 4-1 5-1 6-1
1-2 2-2 3-2 4-2 5-2 6-2
1-3 2-3 3-3 4-3 5-3 6-3
1-4 2-4 3-4 4-4 5-4 6-4
1-5 2-5 3-5 4-5 5-5 6-5
1-6 2-6 3-6 4-6 5-6 6-6
B1 B13 B12 B24 L S13 R
a b c d e f g h i j k l m n p
display grid assignment CDR80x, 100901

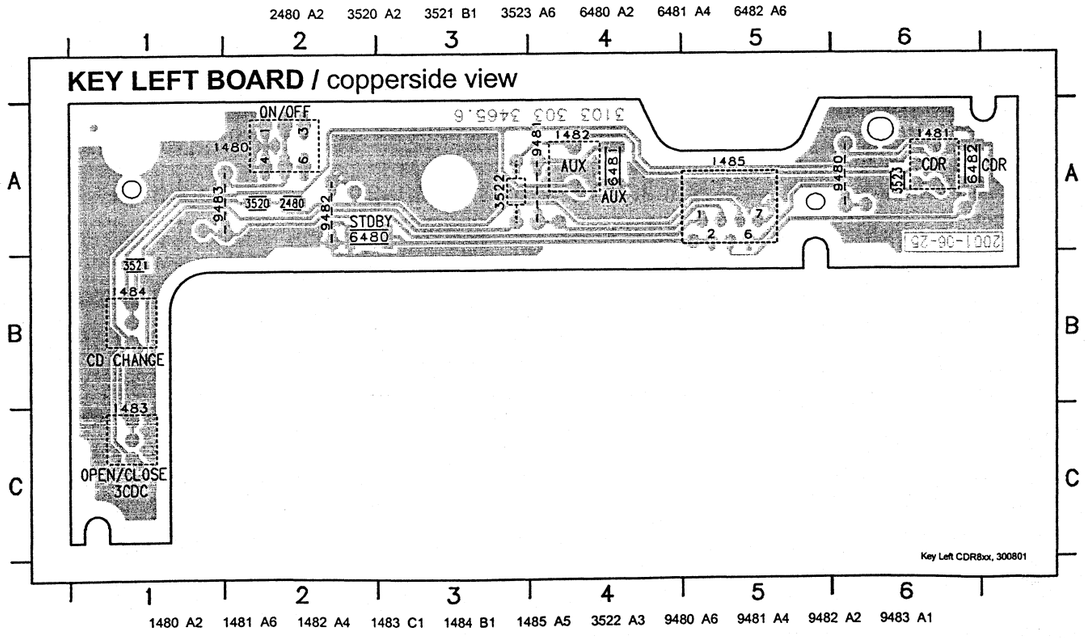
Pin		5	6	7	8	9	10	11	12	13	14
		G1	G2	G3	G4	G5	G6	G7	G10	G9	G8
56	P1	B9	.	2d	DVD	2d	2d	2d	1-1	S5	2d
55	P2	B8	REC IN PROGR	2n	V	2n	2n	2n	2-1	S4	2n
54	P3	B7	S6	2p	CD	2p	2p	2p	3-1	S2	2p
53	P4	B6	S7	2r	MP3	2r	2r	2r	4-1	S1	2r
52	P5	B5	FINALIZE	2e	(DIG) 2	2e	2e	2e	5-1	S3	2e
51	P6	B10	S10	2c	(DIG) 1	2c	2c	2c	6-1	DISC	2c
50	P7	B4	S11	2g	DIG	2g	2g	2g	1-2	PROGRAM	2g
49	P8	B3	S8	2m	(OPT) 2	2m	2m	2m	2-2	SHUFFLE	2m
48	P9	B2	W	2f	(OPT) 1	2f	2f	2f	3-2	d	2f
47	P10	B11	R	2b	OPT	2b	2b	2b	4-2	a	2b
46	P11	B1	CD	2k	PLAYLIST	2k	2k	2k	5-2	b	2k
45	P12	B12	S9	2j	LINE	2j	2j	2j	6-2	c	2j
44	P13	S13	S12	2h	MIC	2h	2h	2h	1-3	REPEAT	2h
43	P14	B18	-	2a	SPEED	2a	2a	2a	2-3	ALL	2a
42	P15	B19	-	.	X	-	.	-	3-3	DISC	-
41	P16	B17	d	1d	d	1d	1d	1d	4-3	CD	1d
40	P17	B20	n	1n	n	1n	1n	1n	5-3	TEXT	1n
39	P18	B16	p	1p	p	1p	1p	1p	6-3	EDIT	1p
38	P19	B21	r	1r	r	1r	1r	1r	1-4	TRACK	1r
37	P20	B15	e	1e	e	1e	1e	1e	2-4	-	1e
36	P21	B22	c	1c	c	1c	1c	1c	3-4	-	1c
35	P22	B14	g	1g	g	1g	1g	1g	4-4	-	1g
34	P23	B23	m	1m	m	1m	1m	1m	5-4	-	1m
33	P24	B13	f	1f	f	1f	1f	1f	6-4	-	1f
32	P25	B24	b	1b	b	1b	1b	1b	1-5	-	1b
31	P26	-	k	1k	k	1k	1k	1k	2-5	-	1k
30	P27	-	j	1j	j	1j	1j	1j	3-5	-	1j
29	P28	-	h	1h	h	1h	1h	1h	4-5	-	1h
28	P29	-	a	1a	a	1a	1a	1a	5-5	-	1a
27	P30	-	TIME	REC	REM	TIME	ALBUM		6-5	-	STEP
26	P31	-	-	TRACK	-	TOTAL	TRACK	TOTAL	1-6	-	-
25	P32	-	-	-	-	-	-	-	2-6	-	-
24	P33	-	-	-	-	-	-	-	3-6	-	-
23	P34	-	-	-	-	-	-	-	4-6	-	-
22	P35	-	-	-	-	-	-	-	5-6	-	-
21	P36	-	-	-	-	-	-	-	6-6	-	-

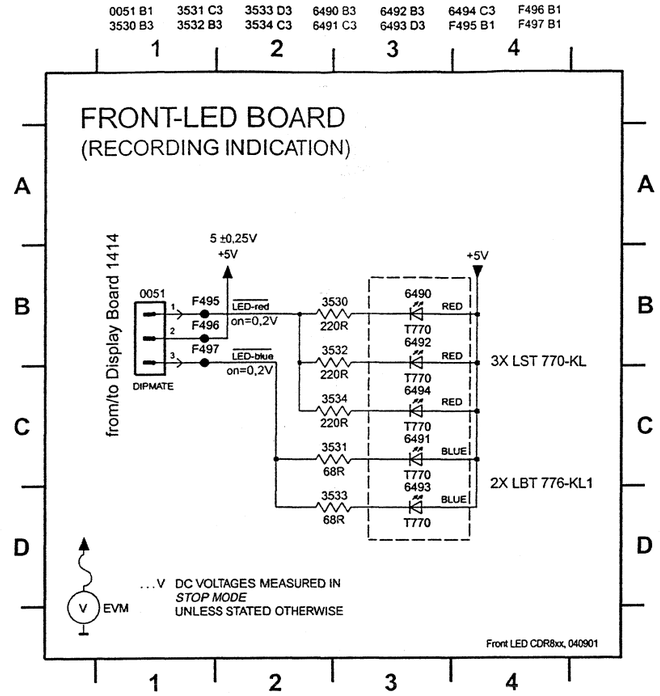
DISPLAY CONNECTION CDR82x

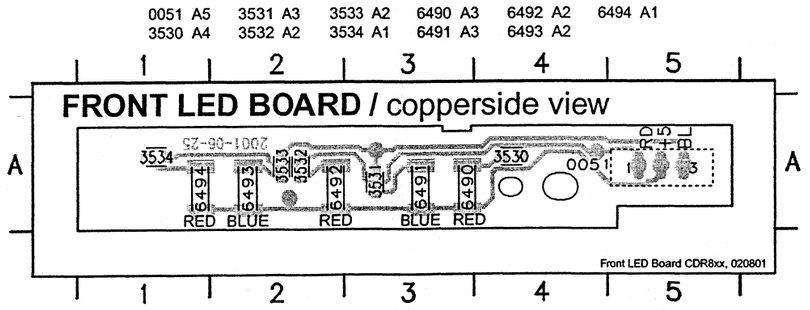

G14 G13 G12 G11 G10 G9 S17 G8 G7 G6 G5 G4 S16 G3 G2 G1
MENU STEP
DIGITAL SURROUND
1 2 3 4
5 6 7 8
9 10 11 12
13 14 15 16
17 18 19 20
20 +
TITLE ALBUM TOTAL CHAPT. TRACK TIME TOTAL REM REC TIME TRACK
DVD DISC VCD
SHUFFLE PROGRAM
REPEAT ALL DISC
CD TEXT EDIT TRACK
MP3 DVD V CD DIG I2 PLAYLIST OPT I2 X SPEED MIC LINE
FINALIZE CDRW
+3 0 - 3 -21 -39 -∞ L R
S15 S9 G1 G15 G16 G15 S2
S13 S11 S12 S10 S1
S14
S4 S5 S6 S7 S8 S3
B1 B13 B12 B24 L S1 R
display grid assignment CDR82x, 100901

Pin		20	6	7	8	9	10	11	12	13	17	16	15	14	5	19	18
		G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11	G12	G13	G14	G15	G16
42	P1	S9	TRACK	S16	REC	.	REM	TOTAL	S17	TRACK	CHAPT.	TOTAL	ALBUM	TITLE		TRACK	6-6
43	P2	B1	1-1	1-1	1-1	1-1	1-1	1-1	1-1	1-1	1-1	1-1	1-1	1-1	20 +	EDIT	5-6
44	P3	B13	2-1	2-1	2-1	2-1	2-1	2-1	2-1	2-1	2-1	2-1	2-1	2-1	20	TEXT	4-6
45	P4	S10	3-1	3-1	3-1	3-1	3-1	3-1	3-1	3-1	3-1	3-1	3-1	3-1	19	DVD V CD	3-6
46	P5	S12	4-1	4-1	4-1	4-1	4-1	4-1	4-1	4-1	4-1	4-1	4-1	4-1	18	W	2-6
47	P6	CD	5-1	5-1	5-1	5-1	5-1	5-1	5-1	5-1	5-1	5-1	5-1	5-1	17	R	1-6
48	P7	V	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	16	CD RW	6-5
49	P8	B2	2-2	2-2	2-2	2-2	2-2	2-2	2-2	2-2	2-2	2-2	2-2	2-2	15	S4	5-5
50	P9	B14	3-2	3-2	3-2	3-2	3-2	3-2	3-2	3-2	3-2	3-2	3-2	3-2	14	S3	4-5
51	P10	B3	4-2	4-2	4-2	4-2	4-2	4-2	4-2	4-2	4-2	4-2	4-2	4-2	13	LINE	3-5
52	P11	B15	5-2	5-2	5-2	5-2	5-2	5-2	5-2	5-2	5-2	5-2	5-2	5-2	12	MIC	2-5
53	P12	S13 DVD	1-3	1-3	1-3	1-3	1-3	1-3	1-3	1-3	1-3	1-3	1-3	1-3	11	SPEED	1-5
54	P13	S1	2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3	10	X	6-4
55	P14	S11	3-3	3-3	3-3	3-3	3-3	3-3	3-3	3-3	3-3	3-3	3-3	3-3	9	DISC	5-4
56	P15	d	4-3	4-3	4-3	4-3	4-3	4-3	4-3	4-3	4-3	4-3	4-3	4-3	8	ALL	4-4
41	P16	a	5-3	5-3	5-3	5-3	5-3	5-3	5-3	5-3	5-3	5-3	5-3	5-3	7	REPEAT	3-4
40	P17	c	1-4	1-4	1-4	1-4	1-4	1-4	1-4	1-4	1-4	1-4	1-4	1-4	6	PLAYLIST	2-4
39	P18	B4	2-4	2-4	2-4	2-4	2-4	2-4	2-4	2-4	2-4	2-4	2-4	2-4	5	OPT	1-4
38	P19	B16	3-4	3-4	3-4	3-4	3-4	3-4	3-4	3-4	3-4	3-4	3-4	3-4	4	OPT 1	6-3
37	P20	S14	4-4	4-4	4-4	4-4	4-4	4-4	4-4	4-4	4-4	4-4	4-4	4-4	3	OPT 2	5-3
36	P21	B5	5-4	5-4	5-4	5-4	5-4	5-4	5-4	5-4	5-4	5-4	5-4	5-4	2	S8	4-3
35	P22	B17	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1	FINALIZE	3-3
34	P23	B6	2-5	2-5	2-5	2-5	2-5	2-5	2-5	2-5	2-5	2-5	2-5	2-5	S15	S7	2-3
33	P24	B18	3-5	3-5	3-5	3-5	3-5	3-5	3-5	3-5	3-5	3-5	3-5	3-5	SURROUND	DIG	1-3
32	P25	B7	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	DIGITAL	DIG 1	6-2
31	P26	B19	5-5	5-5	5-5	5-5	5-5	5-5	5-5	5-5	5-5	5-5	5-5	5-5	MENU	DIG 2	5-2
30	P27	B8	1-6	1-6	1-6	1-6	1-6	1-6	1-6	1-6	1-6	1-6	1-6	1-6	-	S6	4-2
29	P28	B20	2-6	2-6	2-6	2-6	2-6	2-6	2-6	2-6	2-6	2-6	2-6	2-6	-	DVD	3-2
28	P29	B9	3-6	3-6	3-6	3-6	3-6	3-6	3-6	3-6	3-6	3-6	3-6	3-6	-	V	2-2
27	P30	B21	4-6	4-6	4-6	4-6	4-6	4-6	4-6	4-6	4-6	4-6	4-6	4-6	-	CD	1-2
26	P31	B10	5-6	5-6	5-6	5-6	5-6	5-6	5-6	5-6	5-6	5-6	5-6	5-6	-	SHUFFLE	6-1
25	P32	B22	1-7	1-7	1-7	1-7	1-7	1-7	1-7	1-7	1-7	1-7	1-7	1-7	-	PROGRAM	5-1
24	P33	B11	2-7	2-7	2-7	2-7	2-7	2-7	2-7	2-7	2-7	2-7	2-7	2-7	-	S5	4-1
23	P34	B23	3-7	3-7	3-7	3-7	3-7	3-7	3-7	3-7	3-7	3-7	3-7	3-7	-	MP3	3-1
22	P35	B12	4-7	4-7	4-7	4-7	4-7	4-7	4-7	4-7	4-7	4-7	4-7	4-7	-	REC IN PROGR	2-1
21	P36	B24	5-7	5-7	5-7	5-7	5-7	5-7	5-7	5-7	5-7	5-7	5-7	5-7	STEP	S2	1-1


1480 A5 1483 C5 2480 C3 3522 D4 6481 B3 F481 C2 F484 D4 F487 B2 F490 C1
1481 E5 1484 C5 3520 C4 3523 D4 6482 B3 F482 C4 F485 E4 F488 B2
1482 D5 1485 B1 3521 C4 6480 B3 F480 B2 F483 D4 F486 B2 F489 C1
KEY-LEFT BOARD
ON/OFF SWITCH
to/from Display Board 1416
FE-ST-VK-N
ON-OFF
LED_STBY
LED_AUX
LED_CDR
KEY 0
KEY
RED LST 770-KL
GREEN LGT 770-LM
GREEN LGT 770-LM
CD CHANGE
OPEN 3CDC
AUX
CDR
KEY
...V DC VOLTAGES MEASURED IN STOP MODE
UNLESS STATED OTHERWISE
.../...V on/off (* means "floating, not defined")
EVM
Key left CDR8xx, 040901


2480 A2 3520 A2 3521 B1 3523 A6 6480 A2 6481 A4 6482 A6
KEY LEFT BOARD / copperside view
ON/OFF
STDBY
AUX
CD CHANGE
OPEN/CLOSE 3CDC
CDR
Key Left CDR8xx, 300801
1480 A2 1481 A6 1482 A4 1483 C1 1484 B1 1485 A5 3522 A3 9480 A6 9481 A4 9482 A2 9483 A1


0051 B1 3531 C3 3533 D3 6490 B3 6492 B3 6494 C3 F496 B1
3530 B3 3532 B3 3534 C3 6491 C3 6493 D3 F495 B1 F497 B1
FRONT-LED BOARD
(RECORDING INDICATION)
from/to Display Board 1414
DIPMATE
5 ±0,25V
+5V
LED-red
on=0,2V
LED-blue
on=0,2V
3X LST 770-KL
2X LBT 776-KL1
...V DC VOLTAGES MEASURED IN
STOP MODE
UNLESS STATED OTHERWISE
EVM
Front LED CDR8xx, 040901


0051 A5 3531 A3 3533 A2 6490 A3 6492 A2 6494 A1
3530 A4 3532 A2 3534 A1 6491 A3 6493 A2
FRONT LED BOARD / copperside view
RED BLUE RED BLUE RED
Front LED Board CDR8xx, 020801

7-7

INTERFACE BOARD

from/to 3CDC 1803
from/to DISPLAY BOARD 1418
from/to POWER SUPPLY
from/to HP-MIC BOARD 1662
from/to CD R/W moudle 1215
from/to CD R/W module 1402
from/to CD R/W module 1214
from/to CD R/W module 1203

1308 NC, +5V, GND, +10V, SW_INFO, SHR_STR, SHR_CL, SHR_DATA, NC — FE-BT-VK-N
1307 3CDC_SH_Data, 3CDC_Sh_CLK, 3CDC_Sh_Str, 3CDC_SW_info, Mute, Fan, Power_ON, GND, GND, +5V_ever, +5V, NTC, -30V, -F, +F — FE-BT-VK-N
0052 +F, -F, -30V, +5V ever, ON/OFF — DIPMATE
0053 +12V, +12V, GND, GND, +5V, +5V, -12V — DIPMATE

FAN CONTROL
7321 BC557B, 7323 BC847B, F304, F302, 1301 FAN, EH-B, 1306 NTC, EH-B

CDR82x only
MICROPHONE ADC
7322 UDA1360TS
SYSCLK, FSEL, PWON, VINL, VINR, BCK, WS, SFOR, VSSD VSSA, VDDA VDDD, VREFP, VREFN, VREF, DATAO
CLOCK CONTROL, DECIMATION FILTER, ADC, DC-CANCEL FILTER, DIGITAL INTERFACE
1302 MIC LEFT, GND MIC, MIC RIGHT / GND, GND, -12V, HP LEFT, +12V, HP RIGHT — FE-BT-VK-N
1302 for CDR80x = 6 pin
1302 for CDR82x = 8 pin
1305 KILL, CLK_16, GND D, IIS_DATA4, MUTE, IIS_WLK4, GND D, IIS_CLK4, PWR_ON_RESET, IIS_WLK1/GND D, DEEMP, IIS_DATA1/GND D, GND D, EBU_CD10, PROF_DIG_OUT, EBU_OUTENGINE/GND D — FMN

LINE OUT
1315-A — YKC21-3699
1303 ANA OUT LEFT, GND A, ANA OUT RIGHT, GND A, ANA IN RIGHT, GND A, ANA IN LEFT — FE-BT-VK-N
0054 +5V, +5V, GND D, GND D, GND S, +12V — DIPMATE

ANALOG IN BUFFER
7320-A LM833D, 7320-B LM833D

LINE IN
1315-B — YKC21-3699

DIG. IN
1314-B — YKC21-3421

LEVEL SHIFT
7324-A 74LVU04D, 7324-B 74LVU04D, 7324-C 74LVU04D, 7324-D 74LVU04D, 7324-E 74LVU04D, 7324-F 74LVU04D

OPTICAL IN
7312 IR, GP1F32R

OPTICAL OUT
7313 DRIVER, GP1F32T

DIG. OUT
5300 6RG
1314-A — YKC21-3421

1304 GND D, EBU IN Coax, EBU IN Optical / GND D, EBU OUT, +5V — PH-B

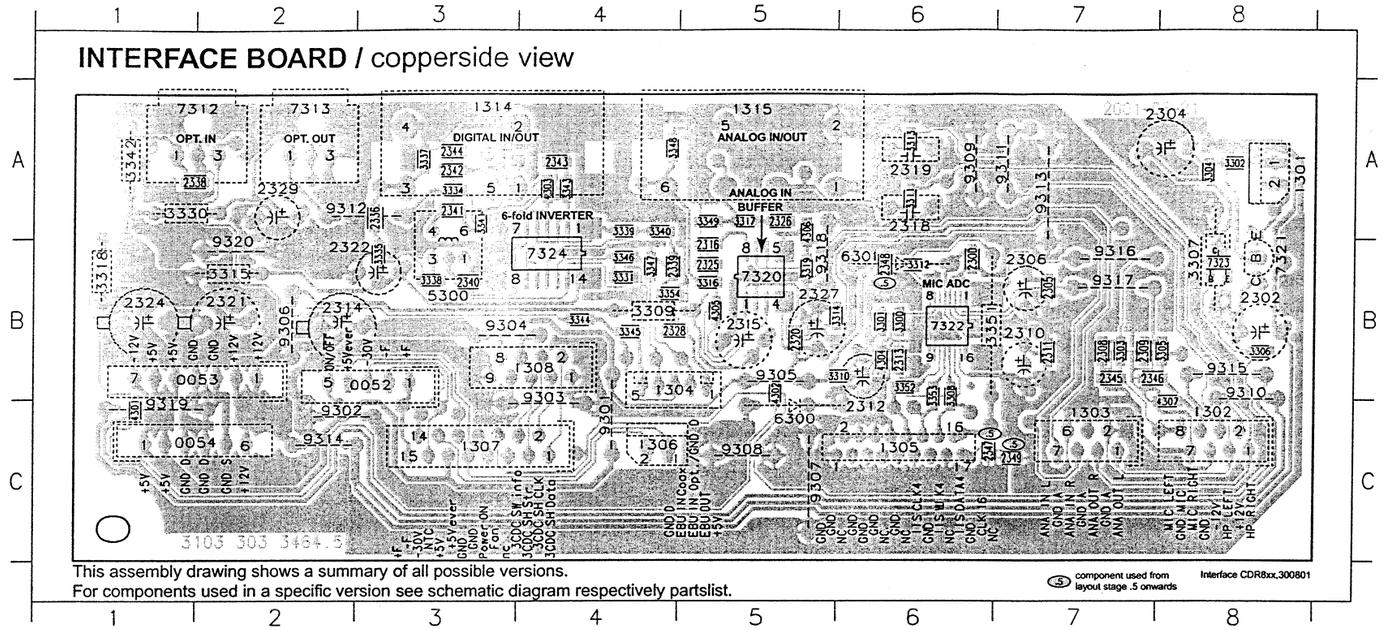
CDR82x only
component used from layout stage .5 onwards
...V DC VOLTAGES MEASURED IN *STOP MODE* UNLESS STATED OTHERWISE
EVM

INTERFACE CDR8xx, 040901

0052 E1	F304 B3	3300 A8	3334 H10
0053 E1	F305 B12	3301 A8	3335 H3
0054 F12	F306 B7	3302 B3	3337 H2
1301 B4	F307 B7	3303 B8	3338 H3
1302 B6	F308 E4	3304 C3	3339 H7
1303 D12	F309 D11	3305 B8	3340 I7
1304 G12	F310 E11	3306 C2	3341 I11
1305 A12	F311 E2	3307 C3	3342 I2
1306 D4	F312 D11	3308 B10	3343 I10
1307 B1	F313 F4	3309 D3	3344 I2
1308 A1	F314 E11	3310 E3	3345 I2
1314-A I12	F315 D11	3311 D11	3346 H4
1314-B I1	F316 E11	3312 F3	3347 H4
1315-A C12	F317 F2	3313 D11	3348 E5
1315-B G1	F318 F4	3314 E7	3349 F5
2300 A11	F319 G2	3315 F3	3351 A9
2302 B4	F320 H2	3316 E5	3352 C10
2304 C3	F321 G2	3317 F5	3353 C11
2305 B11	F322 E11	3318 G3	3354 I6
2306 B10	F324 H2	3319 F7	3391 D4
2308 B8	F325 H5	3330 H11	4305 D7
2309 B8	F326 H2	3331 H3	4306 F7
2310 C10	F327 I6	3334 H10	4307 B7
2311 C10	F328 I2	3335 H3	5300 I11
2312 C9	F329 I5	3337 H2	6300 E3
2313 C9	F330 H11	3338 H3	6301 F3
2314 F2	F331 H12	3339 H7	7312 I1
2315 E3	F332 I12	3340 I7	7313 H12
2316 D6	F333 I12	3341 I11	7320-A E6
2318 D11	F334 I2	3342 I2	7320-B F6
2319 D11	F335 D4	3343 I10	7321 B3
2320 E7	F336 G4	3344 I2	7322 A9
2321 F2	F337 E2	3345 I2	7323 C3
2322 F3	F338 E2	3346 H4	7324-A G9
2324 G2	F339 E2	3347 H4	7324-B H9
2325 E6	F340 E2	3348 E5	7324-C I9
2326 F6	F341 E2	3349 F5	7324-D I9
2327 G3		3351 A9	7324-E I8
2328 G12		3352 C10	7324-F H4
2329 H11		3353 C11	F300 A12
2336 H3		3354 I6	F301 A12
2338 I2		3391 D4	F302 C2
2339 I6		4305 D7	F303 A12
2340 I10		4306 F7	
2341 I11		4307 B7	
2342 I11		5300 I11	
2343 I10		6300 E3	
2344 H2		6301 F3	
2345 B7		7312 I1	
2346 B7		7313 H12	
2347 A12		7320-A E6	
2348 C12		7320-B F6	
2349 C10		7321 B3	
		7322 A9	
		7323 C3	
		7324-A G9	
		7324-B H9	
		7324-C I9	
		7324-D I9	
		7324-E I8	
		7324-F H4	
		F300 A12	
		F301 A12	
		F302 C2	
		F303 A12	

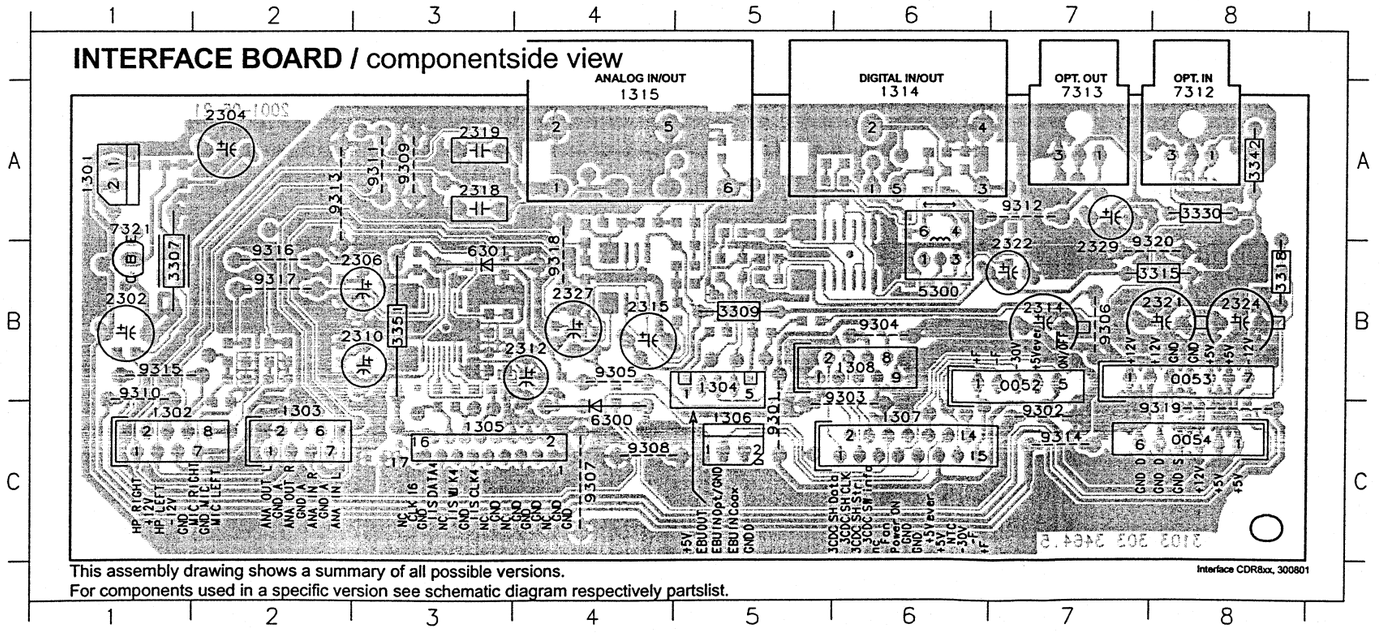
7-8

0052 B3 1302 C8 1306 C4 1315 A5 2310 B7 2318 A6 2324 B1 3309 B4 3342 A1 6301 B6 9301 C4 9305 B5 9309 A6 9313 A7 9317 B7
0053 B1 1303 C7 1307 C4 2302 B8 2312 B6 2319 A6 2327 B6 3315 B2 5300 B3 7312 A1 9302 C2 9306 B2 9310 B8 9314 C2 9318 B5
0054 C1 1304 B4 1308 B4 2304 A8 2314 B2 2321 B2 2329 B2 3318 B1 5300 C3 7313 A2 9303 B4 9307 C5 9311 A7 9315 B8 9319 C2
1301 A8 1305 C6 1314 A3 2306 B7 2315 B5 2322 B3 3307 B8 3330 A1 6300 C5 7321 B8 9304 B3 9308 C5 9312 A3 9316 B7 9320 B2


INTERFACE BOARD / copperside view
7312 OPT. IN
7313 OPT. OUT
1314 DIGITAL IN/OUT
1315 ANALOG IN/OUT
ANALOG IN BUFFER
6-fold INVERTER
MIC ADC
3103 303 3464.5
This assembly drawing shows a summary of all possible versions.
For components used in a specific version see schematic diagram respectively partslist.
component used from layout stage .5 onwards
Interface CDR8xx,300801

2300 B6 2311 B7 2325 B5 2338 A1 2342 A3 2346 B7 3300 B6 3304 A8 3310 B6 3314 B5 3331 B4 3338 B3 3343 A4 3347 B4 3353 B6 4303 A4 4307 C8 7324 B4
2305 B7 2313 B6 2326 A5 2339 B4 2343 A4 2347 C6 3301 B6 3305 B8 3311 A6 3316 B5 3334 A3 3339 A4 3344 B4 3348 A4 3354 B4 4304 B6 7320 B5
2308 B7 2316 B5 2328 B4 2340 B3 2344 A3 2348 B6 3302 A8 3306 B8 3312 B6 3317 A5 3335 B3 3340 A4 3345 B4 3349 A5 4301 C1 4305 B5 7322 B6
2309 B7 2320 B5 2336 A3 2341 A3 2345 B7 2349 C7 3303 B7 3308 B6 3313 A6 3319 B5 3337 A3 3341 A3 3346 B4 3352 B6 4302 B5 4306 A5 7323 B8

0052 B6 1302 C1 1306 C5 1315 A4 2310 B2 2318 A3 2324 B8 3309 B5 3342 A8 6301 B3 9301 C5 9305 B4 9309 A3 9313 A2 9317 B2
0053 B8 1303 C2 1307 C5 2302 B1 2312 B3 2319 A3 2327 B3 3315 B7 3351 B3 7312 A7 9302 C7 9306 B7 9310 B1 9314 C7 9318 B3
0054 C8 1304 B5 1308 B5 2304 A1 2314 B7 2321 B7 2329 B7 3318 B8 5300 B6 7313 A7 9303 B5 9307 C4 9311 A2 9315 B1 9319 C7
1301 A1 1305 C3 1314 A6 2306 B2 2315 B4 2322 B6 3307 B1 3330 A8 6300 C4 7321 B1 9304 B6 9308 C4 9312 A6 9316 B2 9320 B7


INTERFACE BOARD / componentside view
ANALOG IN/OUT 1315
DIGITAL IN/OUT 1314
OPT. OUT 7313
OPT. IN 7312
This assembly drawing shows a summary of all possible versions.
For components used in a specific version see schematic diagram respectively partslist.
Interface CDR8xx, 300801

7-9

HEADPHONE BOARD

HEADPHONE AMPLIFIER

MICROPHONE AMPLIFIER

for CDR82x only

PS2 connector for PC-Keyboard

to / from DISPLAY BOARD 0055

HEADPHONE LEVEL

MIC LEVEL

CDR80x only

for layout stage .5 only connection to cabinet with wire 8011

from layout stage .6 onwards capacitors connected to metal bracket and via spring to cabinet

to/from INTERFACE BOARD 1302

1662 for CDR80x = 6 pin
1662 for CDR82x = 8 pin

*for CDR80x = 0 ohm
for CDR82x = 100 nF

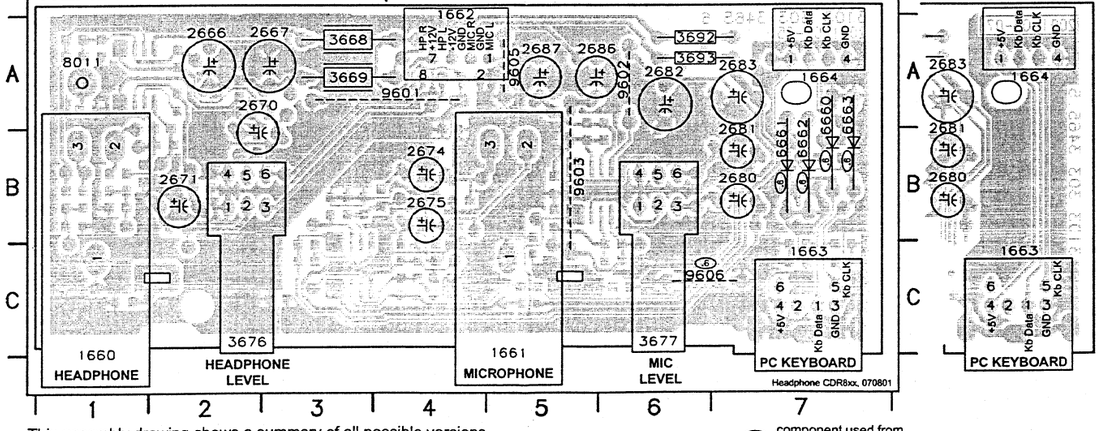
...V DC VOLTAGES MEASURED IN *STOP MODE* UNLESS STATED OTHERWISE

.6 component used from layout stage .6 onwards

Headphone CDR8xx, 300801

1660 A2 1661 E2 1662 A11 1663 C1 1664 C3 2660 B4 2661 C4 2662 D11 2664 B4 2665 C4 2666 A5 2667 B5 2668 A6 2669 C6 2670 A7 2671 C7 2672 E3 2673 G3 2674 E4 2675 F4 2676 E5 2677 G5 2678 E6 2679 G6 2680 E7 2681 G7 2682 D9 2683 F8 2684 E9 2685 G9 2686 E10 2687 G10 2688 C11 2689 F11 2690 E3 2691 E1 2692 E2 2693 E2 2694 E2 2695 E11 2696 E11 3660 A3 3661 C3 3662 D2 3663 D2 3664 A4 3665 C4 3666 B5 3667 C5 3668 A5 3669 B5 3670 B6 3671 D6 3672 A6 3673 C6 3674 A8 3675 C8 3676-A C9 3676-B A9 3677-A E7 3677-B G7 3678 E3 3679 G3 3680 E4 3681 F4 3682 E4 3683 G4 3684 F5 3685 G5 3686 E6 3687 G6 3688 F8 3689 G8 3690 E9 3691 G9 3692 D9 3693 F9 6660 C2 6661 C2 6662 D2 6663 D3 7660-A C5 7660-B A5 7661-A D6 7661-B F6 7662-A E8 7662-B F9 8011 C10 9605 A10 F660 A2 F661 A2 F662 A4 F663 C4 F664 A4 F665 C4 F666 A5 F667 B5 F668 B6 F669 C6 F670 A6 F671 C6 F672 A8 F673 C8 F674 A10 F675 A10 F676 A10 F677 A10 F678 A10 F679 A10 F680 B10 F681 B10 F682 F3 F683 F3 F684 E5 F685 F5 F686 E5 F687 G5 F688 E7 F689 G7 F690 E5 F691 E7 F692 G7 F693 E8 F694 G8 F695 E9 F696 G9 F697 D9 F698 C2 F699 D1 F700 D1 F701 D1 F702 D2 F703 D2

HEADPHONE BOARD / componentside view



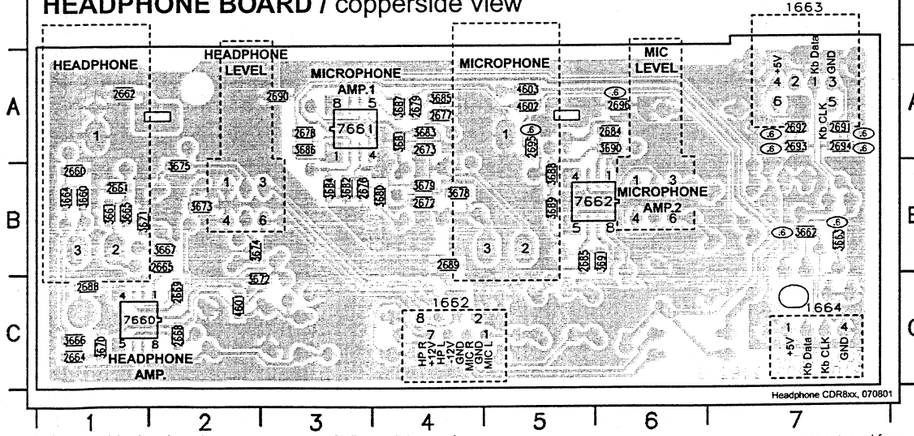
Excerpt of difference to layout stage .5

This assembly drawing shows a summary of all possible versions.
For components used in a specific version see schematic diagram respectively partslist.

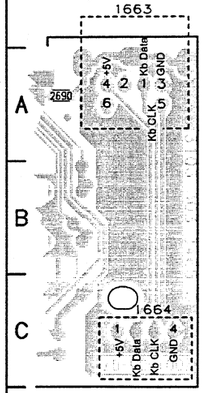
.6 component used from layout stage .6 onwards

1660 C1 1661 C5 1662 A4 1663 C7 1664 A7 2666 A2 2667 A3 2670 A2 2671 B2 2674 B4 2675 B4 2680 B7 2681 A7 2682 A6 2683 A7 2686 A5 2687 A5 3668 A3 3669 A5 3676 C2 3677 C6 3692 A6 3693 A6 6660 B7 6661 B7 6662 B7 6663 B7 8011 A1 9602 A6 9603 B5 9605 A5 9606 C6

HEADPHONE BOARD / copperside view



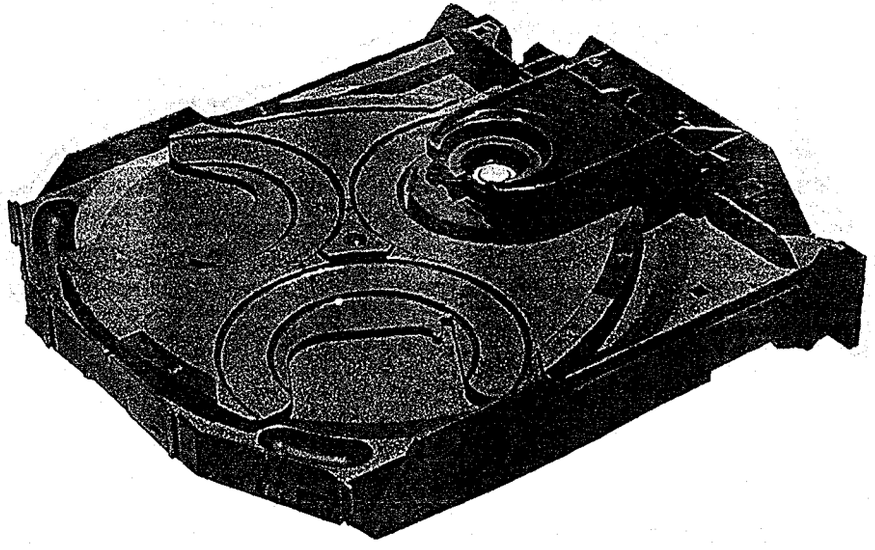
Excerpt of difference to layout stage .5



This assembly drawing shows a summary of all possible versions.
For components used in a specific version see schematic diagram respectively partslist.

.6 component used from layout stage .6 onwards

2660 B1 2661 B1 2662 A1 2664 C1 2665 C2 2668 C2 2669 C2 2672 B4 2673 A4 2676 B3 2677 A4 2678 A3 2679 A4 2685 B5 2688 C1 2689 C4 2690 A3 2691 A7 2692 A7 2693 A7 2694 A7 2695 A5 2696 A6 3660 B1 3661 B1 3662 B7 3663 B7 3664 B1 3665 B1 3666 C1 3667 B2 3670 C1 3671 B1 3672 C2 3673 B2 3674 B2 3675 B2 3678 B4 3679 B4 3680 B4 3681 A4 3682 B3 3683 A4 3684 B3 3685 A4 3686 A3 3687 A4 3688 B5 3689 B5 3690 A6 3691 B6 4601 C2 4602 A5 4603 A5 7660 C1 7661 A3 7662 B5



3CDC-LC-CDR

(3 Disc Carousel Changer)

Layout stage .6

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Blockdiagram 8-3
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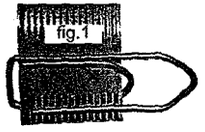
Circuit Diagram part 1 8-5
Component Layout Main Board 8-6
Circuit Diagram part 2 8-7
Circuit Diagram part 3 8-8
Exploded View 8-8

Service hints

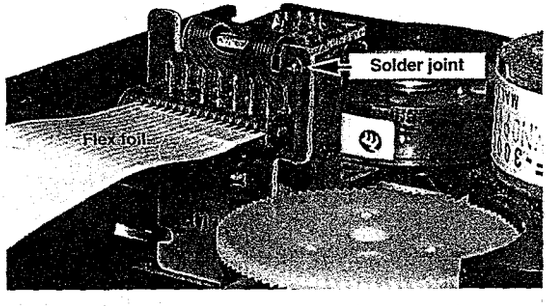
CAUTION

CHARGED CAPACITORS ON THE SERVO BOARD MAY DAMAGE THE CD DRIVE ELECTRONICS WHEN CONNECTING A NEW CD MECHANISM. THAT´S WHY, BESIDES THE SAFETY MEASURES LIKE
• SWITCH OFF POWER SUPPLY
• ESD PROTECTION
ADDITIONAL ACTIONS MUST BE TAKEN BY THE REPAIR TECHNICIAN.

The following steps have to be done when replacing the CD mechanism:
1. Disconnect flexfoil cable from the old CD drive
2. Put a paperclip onto the flexfoil cable to short-circuit the contacts (fig.1)
3. Remove the old CD drive
4. Remove paperclip from the flexfoil cable and connect it to the new CD drive
5. Position the new CD drive on its studs
6. Remove solder joint from the Laser unit (see below)

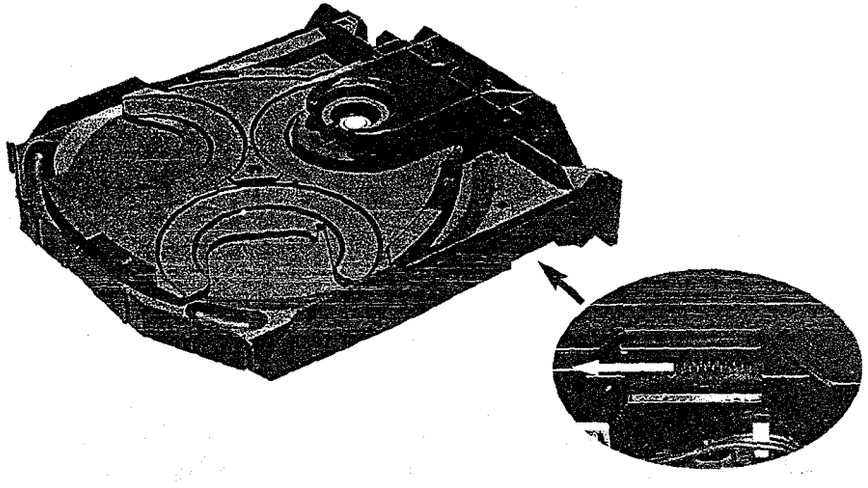


Attention: The laser diode of this CD drive is protected against ESD by a solder joint which short-circuits the laser diode to ground.
For proper functionality of the CD drive this solder joint must be removed **after** connecting the drive to the set.



Emergency open

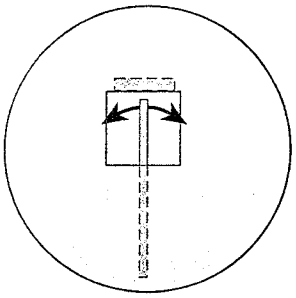
In case of a Supply fault, the tray can be opened manually.
1. Remove the top cover of the set to get access to the Changer Module.
2. Turn gearwheel clockwise (as shown in picture below).

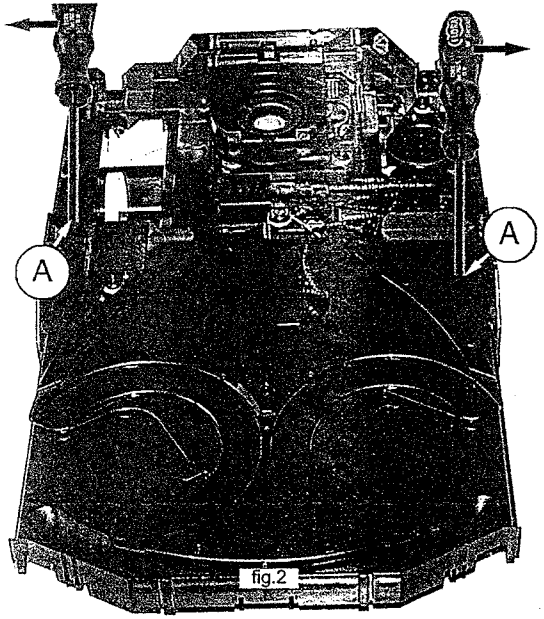


Service hints

Dismantling of Tray

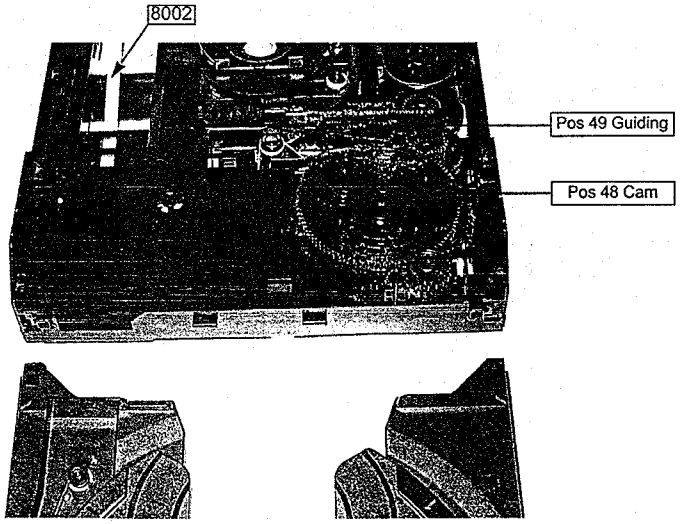
1. Open the tray.
2. Release 2x catch as shown in fig. 2 and Detail A
3. Pull tray out.



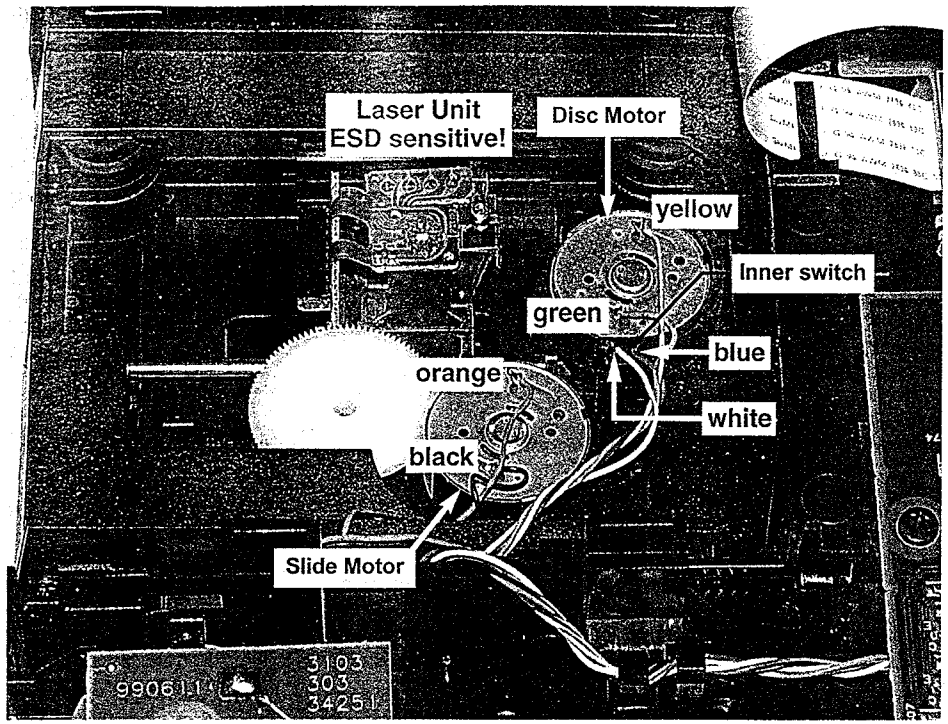


Assembling of Tray

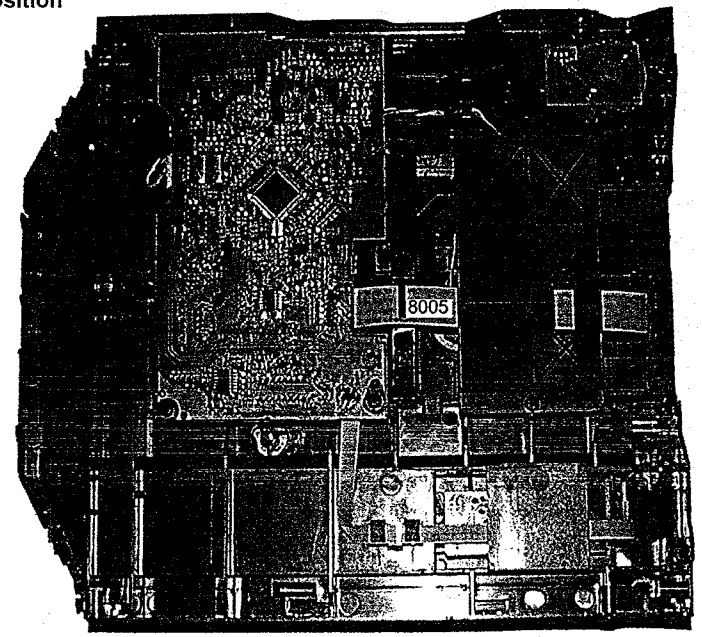
1. Turn Cam (pos. 48) clockwise to end position.
2. If necessary - move Guiding (pos. 49) to the right end position.
3. Insert the Tray.



Wiring

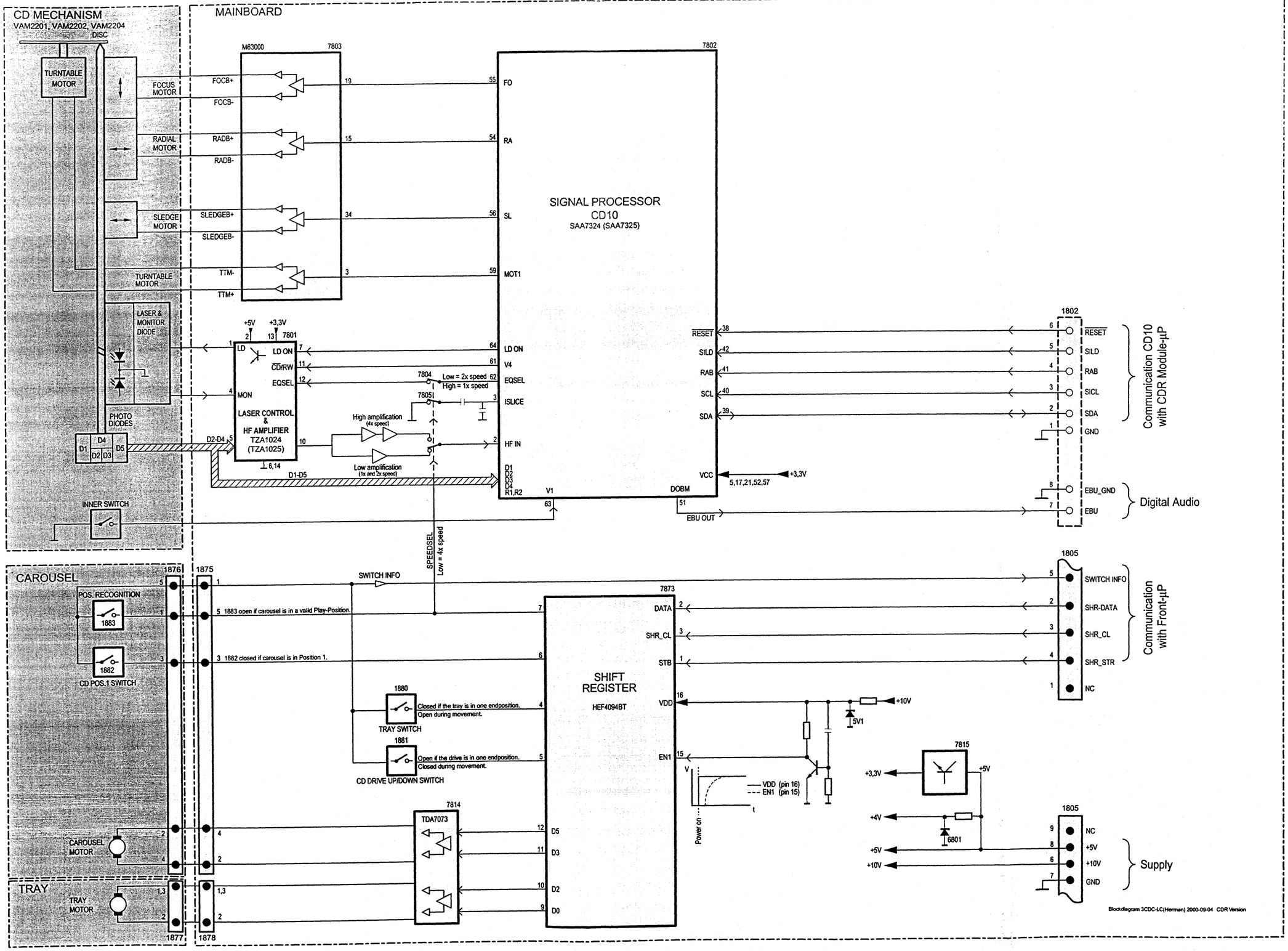


Service Position



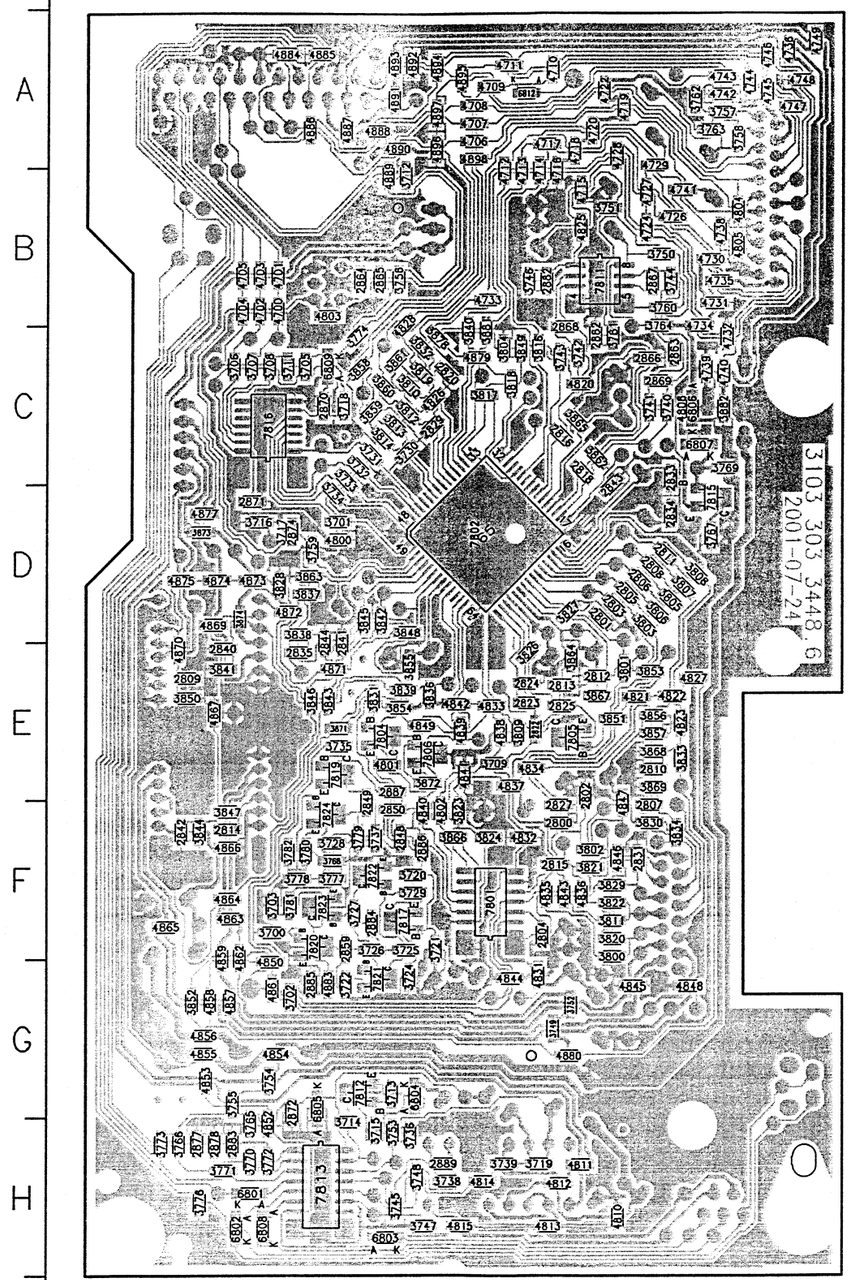
8-3

BLOCK DIAGRAM 3CDC-LC CDR Version



8-4

3CDC-LC-CDR (Herman) Copperside view



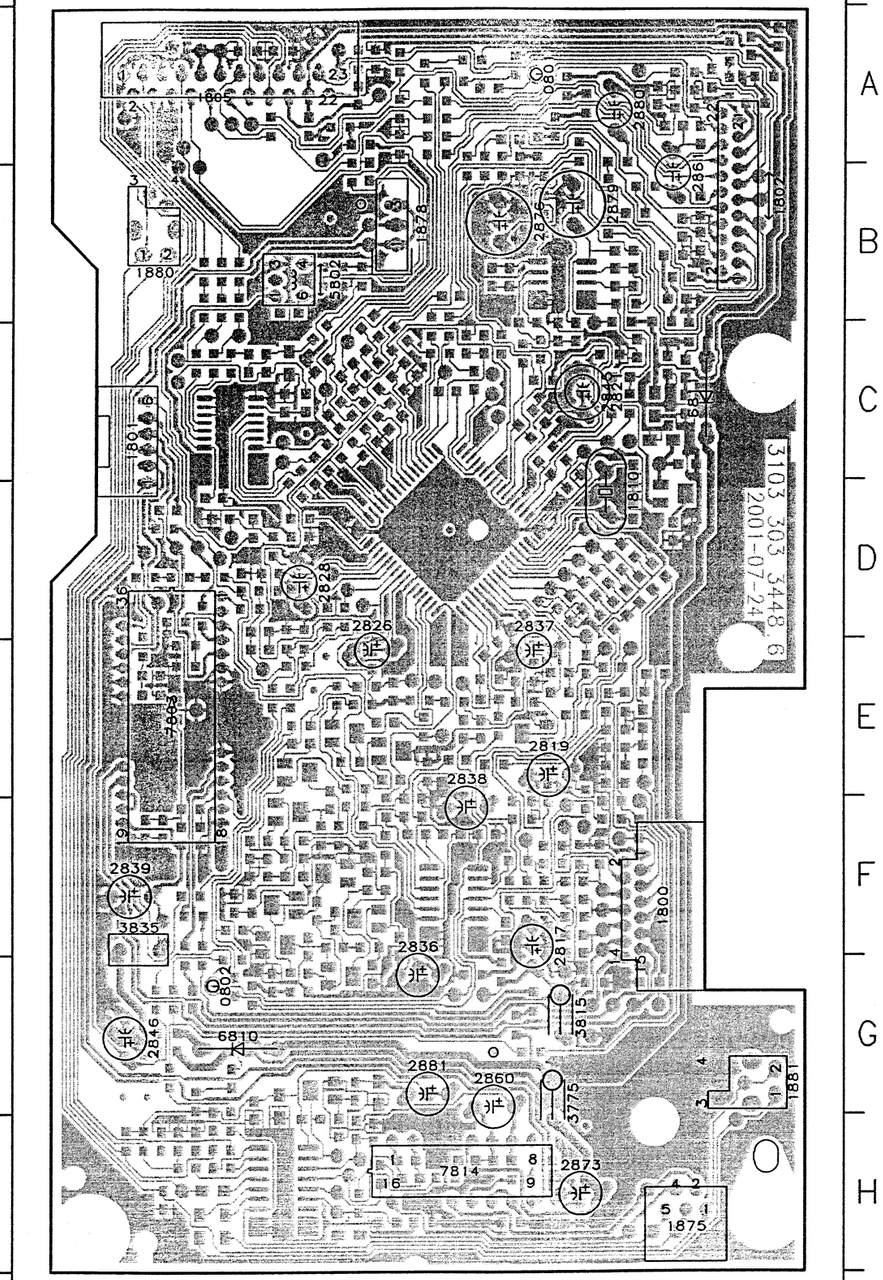
This assembly drawing shows a summary
of all possible versions.
For components used in a specific version
see schematic diagram respectively partslist.

3CDC-LC-CDR (Herman) Layout stage .6 2001-07-26

Mapping

Copperside								Componentside	
2800	F4	3734	D2	3845	D2	4815	H3	7817	F3
2801	D4	3735	E2	3846	E2	4820	C4	7819	E2
2802	E4	3736	H3	3847	F1	4821	E4	7820	F2
2803	D4	3737	F2	3848	D3	4822	E4	7821	G2
2804	F3	3738	H3	3849	C3	4823	E4	7822	F2
2805	D4	3739	H3	3850	E1	4825	B4	7823	F2
2806	D4	3740	C4	3851	E4	4826	C3	7824	F2
2807	F4	3741	C4	3852	G1	4827	E4		
2808	D4	3742	C4	3853	E4	4828	C3		
2809	E1	3743	C4	3854	E2	4831	G3		
2810	E4	3744	B4	3855	E3	4832	F3		
2811	D4	3745	H2	3856	E4	4833	E3		
2812	E4	3746	B3	3857	E4	4834	E3		
2813	E4	3747	H3	3858	C2	4835	F3		
2814	F1	3748	H3	3859	C2	4836	F4		
2815	F3	3749	G3	3860	C2	4837	E3		
2816	C4	3750	B4	3861	C2	4838	E3		
2818	C4	3751	B4	3862	C4	4839	E3		
2820	C3	3752	G4	3863	D2	4840	F3		
2822	E3	3753	H2	3864	E4	4841	E3		
2823	E3	3754	G2	3865	C4	4842	E3		
2824	E3	3755	G1	3866	F3	4843	F4		
2825	E4	3756	B2	3867	E4	4844	G3		
2827	F4	3757	A5	3868	E4	4845	G4		
2829	C3	3758	A5	3869	E4	4846	F4		
2831	F4	3759	D2	3871	E2	4847	F4		
2833	C4	3760	B4	3872	E3	4848	G4		
2834	D4	3761	C4	3873	D1	4849	E3		
2835	E2	3762	A4	3874	D1	4850	G2		
2840	E1	3763	A4	3878	C3	4852	H2		
2841	E2	3764	C4	3881	C3	4853	G1		
2842	F1	3765	H2	3882	C5	4854	G2		
2843	D4	3766	H1	4700	B2	4855	G1		
2844	E2	3767	D4	4701	B2	4856	G1		
2848	F2	3768	F2	4702	B2	4857	G1		
2849	F2	3769	C5	4703	B2	4858	G1		
2850	F2	3770	H2	4704	B1	4859	F1		
2859	F2	3771	H1	4705	B1	4861	G2		
2862	C4	3772	H2	4706	A3	4862	F1		
2863	C4	3773	H1	4707	A3	4863	F1		
2864	B2	3774	C2	4708	A3	4864	F1		
2865	B2	3776	H1	4709	A3	4865	F1		
2866	C4	3777	F2	4710	A3	4866	F1		
2867	B4	3778	F2	4711	A3	4867	E1		
2868	C4	3779	F2	4712	B3	4869	D1		
2869	C4	3780	F2	4713	B3	4870	E1		
2870	C2	3781	F2	4714	B3	4871	E2		
2871	D2	3782	F2	4715	B4	4872	D2		
2872	G2	3800	F4	4716	B3	4873	D2		
2874	D2	3801	E4	4717	A3	4874	D1		
2877	H1	3802	F4	4718	A4	4875	D1		
2878	H1	3803	D4	4719	A4	4877	D1		
2882	B3	3804	C3	4720	A4	4879	C3		
2883	H1	3805	D4	4722	A4	4880	G4		
2884	F2	3806	D4	4724	B4	4883	G2		
2885	G2	3807	D4	4726	B4	4884	A2		
2886	F3	3808	D4	4727	B4	4885	A2		
2887	E2	3809	E3	4728	A4	4886	A2		
2889	H3	3810	C3	4729	A4	4887	A2		
3700	F2	3811	F4	4730	B4	4888	A2		
3701	D2	3812	C3	4731	B4	4889	B2		
3702	G2	3813	C2	4732	C5	4890	A2		
3703	F2	3814	C2	4733	B3	4891	A2		
3705	C2	3816	C3	4734	C4	4892	A3		
3706	C1	3817	C3	4735	B5	4893	A2		
3707	C2	3818	C3	4736	A5	4894	A3		
3708	C2	3819	C3	4738	B5	4895	A3		
3709	E3	3820	F4	4739	C4	4896	A3		
3711	C2	3821	F4	4740	C5	4897	A3		
3712	B3	3822	F4	4741	B4	4898	A3		
3713	G2	3823	F3	4742	A5	6801	H2		
3714	H2	3824	F3	4743	A5	6802	H1		
3715	H2	3826	E3	4744	A5	6803	H2		
3716	D2	3827	D4	4745	A5	6804	G3		
3717	D2	3828	D2	4746	A5	6805	G2		
3718	C2	3829	F4	4747	A5	6806	C4		
3719	H3	3830	F4	4748	A5	6807	C4		
3720	F3	3831	E2	4749	A5	6808	H2		
3721	F3	3832	C3	4800	D2	6809	C2		
3722	G2	3833	E4	4801	E2	6812	A3		
3724	G3	3834	F4	4802	F3	7801	F3		
3725	F3	3836	E3	4803	B2	7802	D3		
3726	F2	3837	D2	4804	B5	7804	E2		
3727	F2	3838	D2	4805	B5	7805	E4		
3728	F2	3839	E3	4806	C4	7806	E3		
3729	F3	3840	C3	4810	H4	7811	B4		
3730	C3	3841	E1	4811	H4	7812	G2		
3731	C2	3842	D2	4812	H4	7813	H2		
3732	C2	3843	E2	4813	H3	7815	D4		
3733	C2	3844	F1	4814	H3	7816	C2		

3CDC-LC-CDR (Herman) Components seen from Copperside



This assembly drawing shows a summary
of all possible versions.
For components used in a specific version
see schematic diagram respectively partslist.

3CDC-LC-CDR (Herman) Layout stage .6 2001-07-26

8-5

1800 C1 | 1801 G1 | 2800 C4 | 2801 C5 | 2802 B4 | 2803 B5 | 2804 D6 | 2805 B5 | 2806 A5 | 2807 A4 | 2808 A5 | 2809 I5 | 2810 A4 | 2811 A5 | 2814 G5 | 2815 D5 | 2817 E5 | 2819 C2 | 2827 B4 | 2828 A13 | 2830 H6 | 2831 E4 | 2832 I6 | 2835 I5 | 2836 E8 | 2839 G5 | 2840 H5 | 2841 F6 | 2842 F5 | 2844 G6 | 2846 H5 | 2848 D9 | 2849 E11 | 2850 D14 | 2851 E9 | 2859 D12 | 2878 D10 | 2884 C11 | 2885 C9 | 2886 C9 | 2887 E12 | 3700 D11 | 3702 C9 | 3703 D13 | 3720 C10 | 3721 C10 | 3722 D12 | 3724 C11 | 3725 C11 | 3726 C11 | 3727 C12 | 3728 D9 | 3729 C12 | 3735 E11 | 3777 D10 | 3778 E10 | 3779 D10 | 3780 E10 | 3781 D13 | 3782 E12 | 3800 B4 | 3801 B4 | 3802 B4 | 3803 B4 | 3805 A4 | 3806 B4 | 3807 A4 | 3808 A4 | 3811 B4 | 3815 E5 | 3820 D4 | 3821 C4 | 3822 C4 | 3824 D8 | 3829 E4 | 3830 D4 | 3831 F8 | 3833 A3 | 3834 A3 | 3835 G5 | 3836 H6 | 3837 I5 | 3838 I5 | 3839 H6 | 3841 H5 | 3842 F6 | 3843 F6 | 3844 F5 | 3845 G6 | 3846 G6 | 3847 G5 | 3848 I6 | 3850 I5 | 3852 H5 | 3854 E8 | 3856 C2 | 3857 C2 | 3863 A13 | 3866 D8 | 3868 A4 | 3869 A4 | 3872 E5 | 3873 G2 | 3874 H2 | 7801 D6 | 7803 E3 | 7804 E8 | 7806 E5 | 7817 C10 | 7819 E11 | 7820 D11 | 7821 C12 | 7822 C13 | 7823 C13 | 7824 E10

3CDC-LC
part 1

CD Drive

HF-Amplifier & Laser power control

HF-Amplifier for quad speed versions only

Servo Driver

Motor Driver

TO SERVOPOCESSOR 7800 on PART2

FROM SIGNALPOCESSOR 7800 on PART2

from part 2

for double speed versions a wire bridge is stuffed instead of this circuitry

* marked components only forseen

. . . V DC voltages measured in *PLAY MODE* with following conditions: "+10V" = 10V "+5V" = 5V

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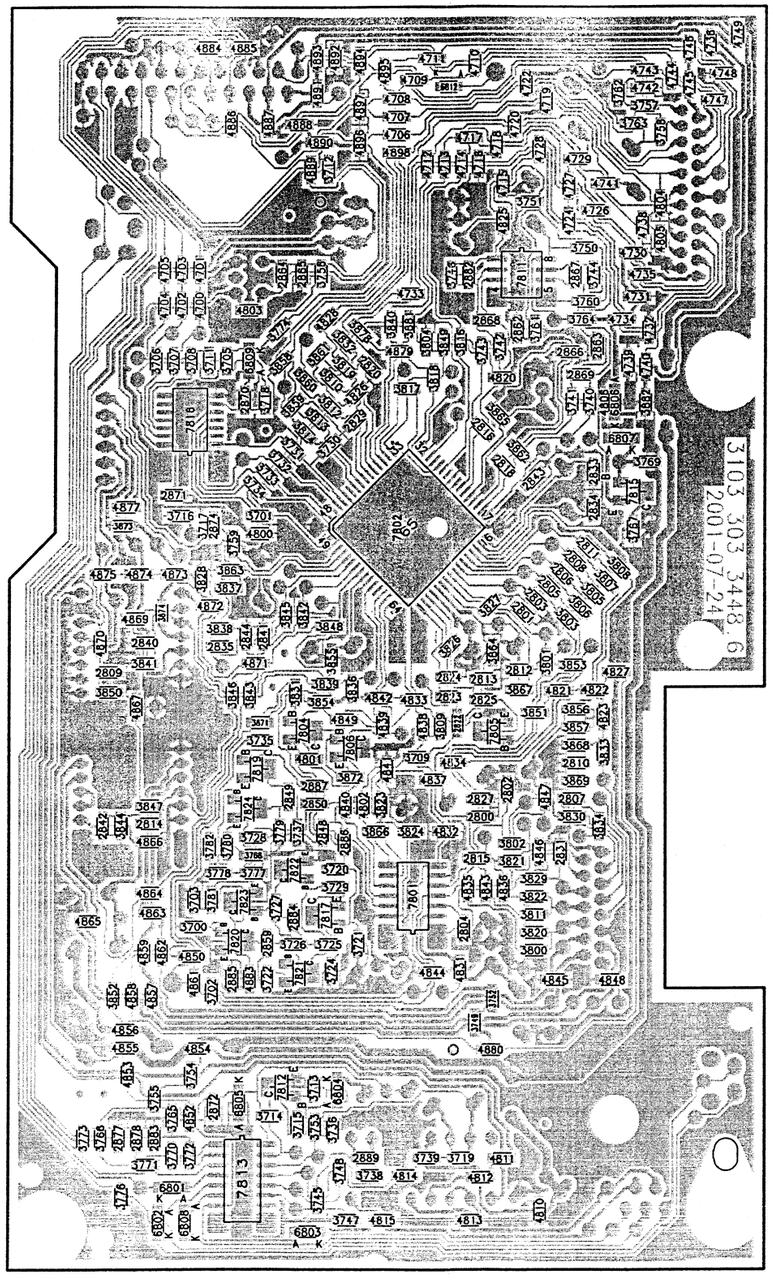
3CDC-LC-CDR (Herman) Copperside view



This assembly drawing shows a summary
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For components used in a specific version
see schematic diagram respectively partslist.

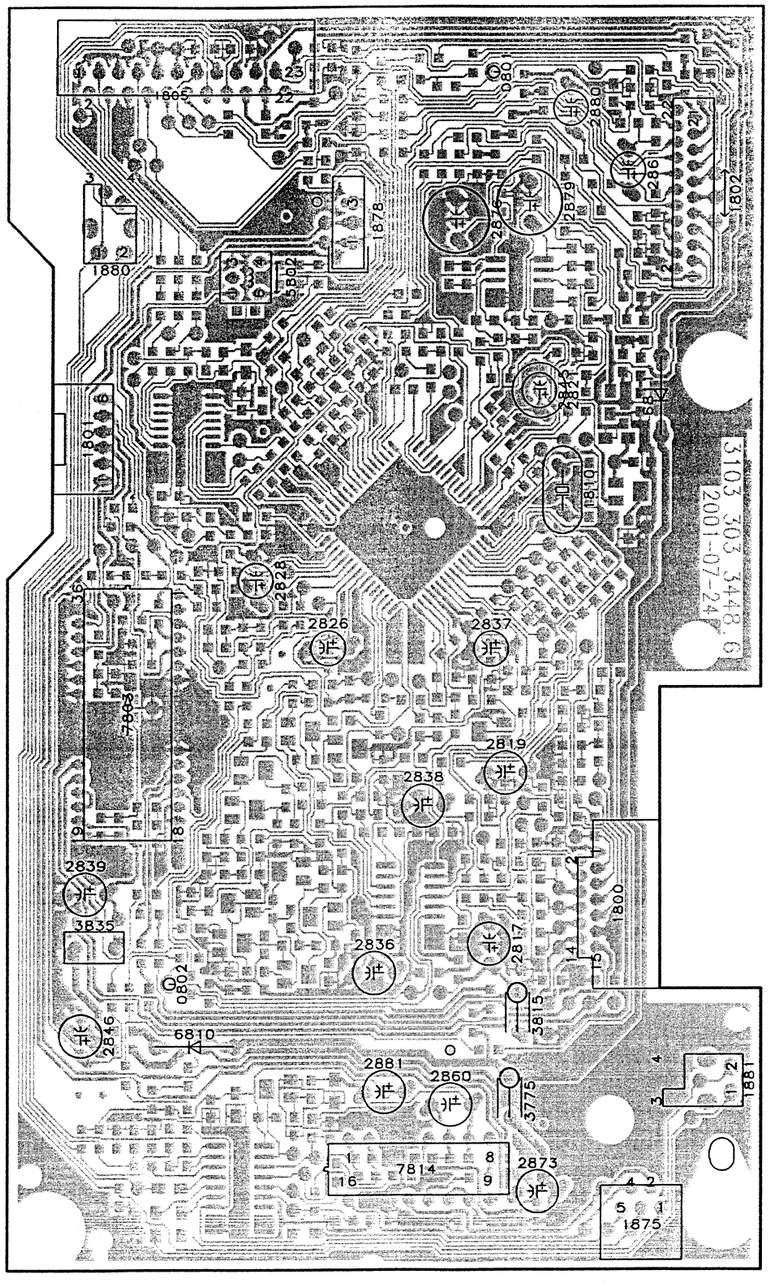
3CDC-LC-CDR (Herman) Layout stage .6 2001-07-26

Mapping

Copperside								Componentside	
2800	F4	3734	D2	3845	D2	4815	H3	7817	F3
2801	D4	3735	E2	3846	E2	4820	C4	7819	E2
2802	E4	3736	H3	3847	F1	4821	E4	7820	F2
2803	D4	3737	F2	3848	D3	4822	E4	7821	G2
2804	F3	3738	H3	3849	C3	4823	E4	7822	F2
2805	D4	3739	H3	3850	E1	4825	B4	7823	F2
2806	D4	3740	C4	3851	E4	4826	C3	7824	F2
2807	F4	3741	C4	3852	G1	4827	E4		
2808	D4	3742	C4	3853	E4	4828	C3		
2809	E1	3743	C4	3854	E2	4831	G3		
2810	E4	3744	B4	3855	E3	4832	F3		
2811	D4	3745	H2	3856	E4	4833	E3		
2812	E4	3746	B3	3857	E4	4834	E3		
2813	E4	3747	H3	3858	C2	4835	F3		
2814	F1	3748	H3	3859	C2	4836	F4		
2815	F3	3749	G3	3860	C2	4837	E3		
2816	C4	3750	B4	3861	C2	4838	E3		
2818	C4	3751	B4	3862	C4	4839	E3		
2820	C3	3752	G4	3863	D2	4840	F3		
2822	E3	3753	H2	3864	E4	4841	E3		
2823	E3	3754	G2	3865	C4	4842	E3		
2824	E3	3755	G1	3866	F3	4843	F4		
2825	E4	3756	B2	3867	E4	4844	G3		
2827	F4	3757	A5	3868	E4	4845	G4		
2829	C3	3758	A5	3869	E4	4846	F4		
2831	F4	3759	D2	3871	E2	4847	F4		
2833	C4	3760	B4	3872	E3	4848	G4		
2834	D4	3761	C4	3873	D1	4849	E3		
2835	E2	3762	A4	3874	D1	4850	G2		
2840	E1	3763	A4	3878	C3	4852	H2		
2841	E2	3764	C4	3881	C3	4853	G1		
2842	F1	3765	H2	3882	C5	4854	G2		
2843	D4	3766	H1	4700	B2	4855	G1		
2844	E2	3767	D4	4701	B2	4856	G1		
2848	F2	3768	F2	4702	B2	4857	G1		
2849	F2	3769	C5	4703	B2	4858	G1		
2850	F2	3770	H2	4704	B1	4859	F1		
2859	F2	3771	H1	4705	B1	4861	G2		
2862	C4	3772	H2	4706	A3	4862	F1		
2863	C4	3773	H1	4707	A3	4863	F1		
2864	B2	3774	C2	4708	A3	4864	F1		
2865	B2	3776	H1	4709	A3	4865	F1		
2866	C4	3777	F2	4710	A3	4866	F1		
2867	B4	3778	F2	4711	A3	4867	E1		
2868	C4	3779	F2	4712	B3	4869	D1		
2869	C4	3780	F2	4713	B3	4870	E1		
2870	C2	3781	F2	4714	B3	4871	E2		
2871	D2	3782	F2	4715	B4	4872	D2		
2872	G2	3800	F4	4716	B3	4873	D2		
2874	D2	3801	E4	4717	A3	4874	D1		
2877	H1	3802	F4	4718	A4	4875	D1		
2878	H1	3803	D4	4719	A4	4877	D1		
2882	B3	3804	C3	4720	A4	4879	C3		
2883	H1	3805	D4	4722	A4	4880	G4		
2884	F2	3806	D4	4724	B4	4883	G2		
2885	G2	3807	D4	4726	B4	4884	A2		
2886	F3	3808	D4	4727	B4	4885	A2		
2887	E2	3809	E3	4728	A4	4886	A2		
2889	H3	3810	C3	4729	A4	4887	A2		
3700	F2	3811	F4	4730	B4	4888	A2		
3701	D2	3812	C3	4731	B4	4889	B2		
3702	G2	3813	C2	4732	C5	4890	A2		
3703	F2	3814	C2	4733	B3	4891	A2		
3705	C2	3816	C3	4734	C4	4892	A3		
3706	C1	3817	C3	4735	B5	4893	A2		
3707	C2	3818	C3	4736	A5	4894	A3		
3708	C2	3819	C3	4738	B5	4895	A3		
3709	E3	3820	F4	4739	C4	4896	A3		
3711	C2	3821	F4	4740	C5	4897	A3		
3712	B3	3822	F4	4741	B4	4898	A3		
3713	G2	3823	F3	4742	A5	6801	H2		
3714	H2	3824	F3	4743	A5	6802	H1		
3715	H2	3826	E3	4744	A5	6803	H2		
3716	D2	3827	D4	4745	A5	6804	G3		
3717	D2	3828	D2	4746	A5	6805	G2		
3718	C2	3829	F4	4747	A5	6806	C4		
3719	H3	3830	F4	4748	A5	6807	C4		
3720	F3	3831	E2	4749	A5	6808	H2		
3721	F3	3832	C3	4800	D2	6809	C2		
3722	G2	3833	E4	4801	E2	6812	A3		
3724	G3	3834	F4	4802	F3	7801	F3		
3725	F3	3836	E3	4803	B2	7802	D3		
3726	F2	3837	D2	4804	B5	7804	E2		
3727	F2	3838	D2	4805	B5	7805	E4		
3728	F2	3839	E3	4806	C4	7806	E3		
3729	F3	3840	C3	4810	H4	7811	B4		
3730	C3	3841	E1	4811	H4	7812	G2		
3731	C2	3842	D2	4812	H4	7813	H2		
3732	C2	3843	E2	4813	H3	7815	D4		
3733	C2	3844	F1	4814	H3	7816	C2		

Componentside	
0801	A4
0802	G2
1800	F4
1801	C1
1802	B5
1805	A2
1810	D4
1875	H5
1878	B3
1880	B1
1881	G5
2817	F4
2819	E4
2821	C4
2826	D3
2828	D2
2836	F3
2837	D4
2838	E3
2839	F1
2845	C4
2846	G1
2860	G3
2861	B5
2873	H4
2876	B3
2879	B4
2880	A4
2881	G3
3775	G4
3815	G4
3835	F1
5802	B2
6810	G2
6811	C5
7803	E1
7814	H3

3CDC-LC-CDR (Herman) Components seen from Copperside



This assembly drawing shows a summary
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3CDC-LC-CDR (Herman) Layout stage .6 2001-07-26

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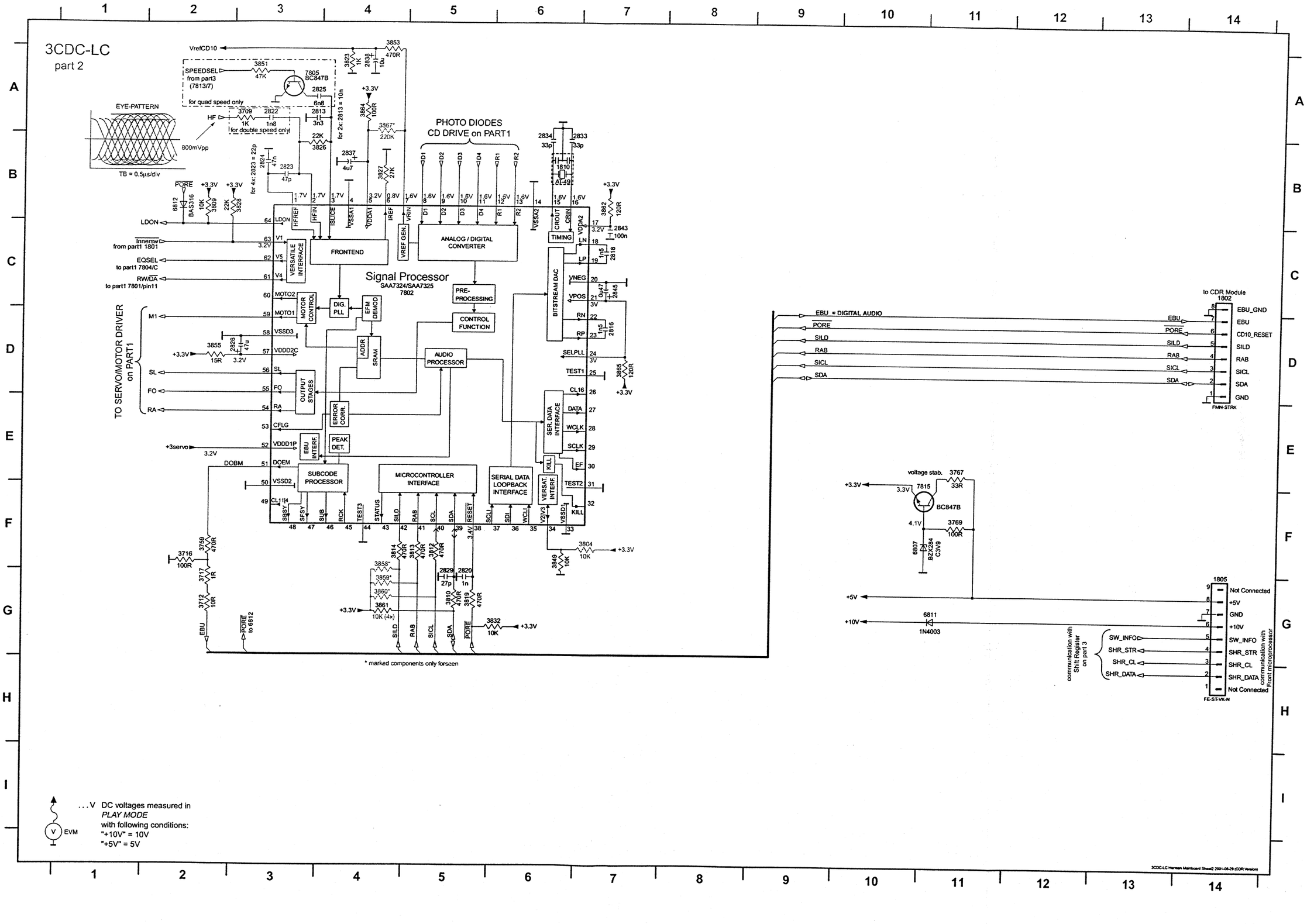
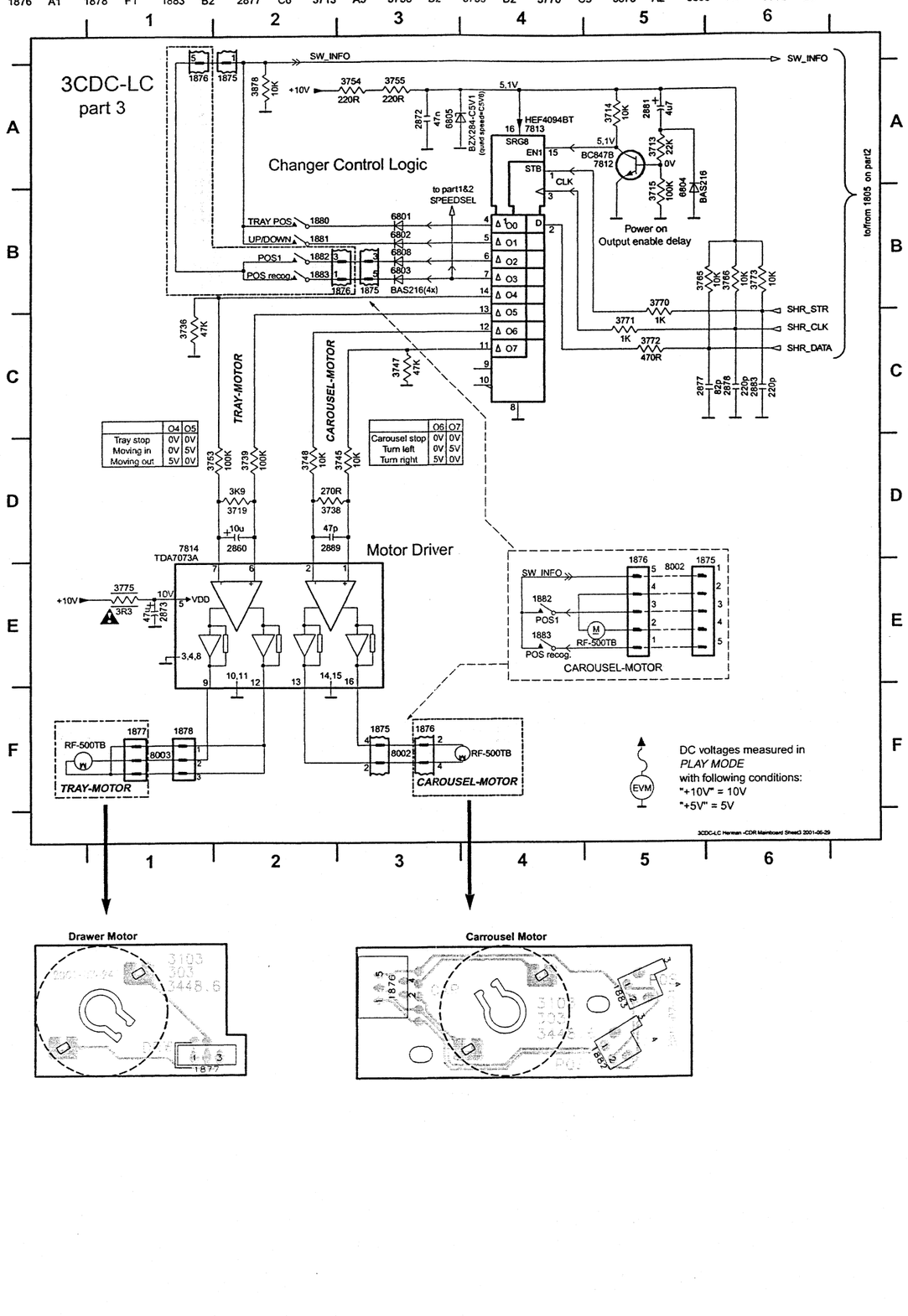
1802	C14	2813	A3	2820	G5	2824	B3	2829	G5	2837	B4	2845	C7	3716	F2	3767	E11	3809	B2	3813	F5	3823	A4	3828	B3	3851	A3	3858	G4	3861	G4	3865	D7	6811	G11	7802	C5
1803	G14	2816	D7	2822	A3	2825	A3	2833	B6	2838	A4	3709	A3	3717	G2	3769	F11	3810	G5	3814	F4	3826	B3	3832	G6	3853	A4	3859	G4	3862	B7	3867	A4	6812	B2	7815	F11
1810	B6	2818	C7	2823	B3	2826	D3	2834	B6	2843	C7	3712	G2	3759	F2	3804	F7	3812	F5	3819	G5	3827	B4	3849	F6	3855	D2	3860	G4	3864	A4	6807	F11	7802	A3		

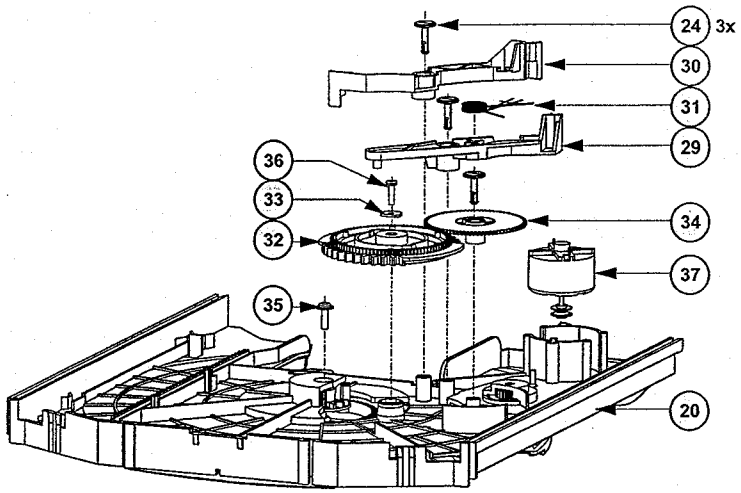


1875	F3	1876	B3	1880	B2	1883	E4	2878	C6	3714	A5	3739	D2	3754	A3	3771	C5	6801	B3	6808	B3	8003	F1
1875	E5	1876	F3	1881	B2	2860	D2	2881	A5	3715	B5	3745	D3	3755	A3	3772	C5	6802	B3	7812	A5		
1875	B3	1876	E5	1882	B2	2872	A3	2883	C6	3719	D2	3747	C3	3765	B6	3773	B6	6803	B3	7813	A4		
1875	A2	1877	F1	1882	E4	2873	E1	2889	D2	3736	C1	3748	D2	3766	B6	3775	E1	6804	B5	7814	E1		
1876	A1	1878	F1	1883	B2	2877	C6	3713	A5	3738	D2	3753	D2	3770	C5	3878	A2	6805	A4	8002	E5		

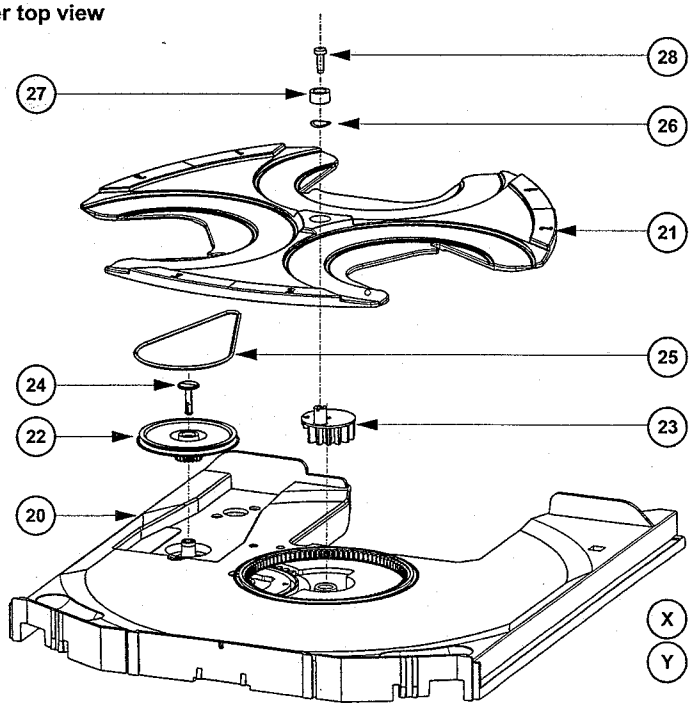


EXPLODED VIEW (Drawer)

Drawer bottom view



Drawer top view



X spare part

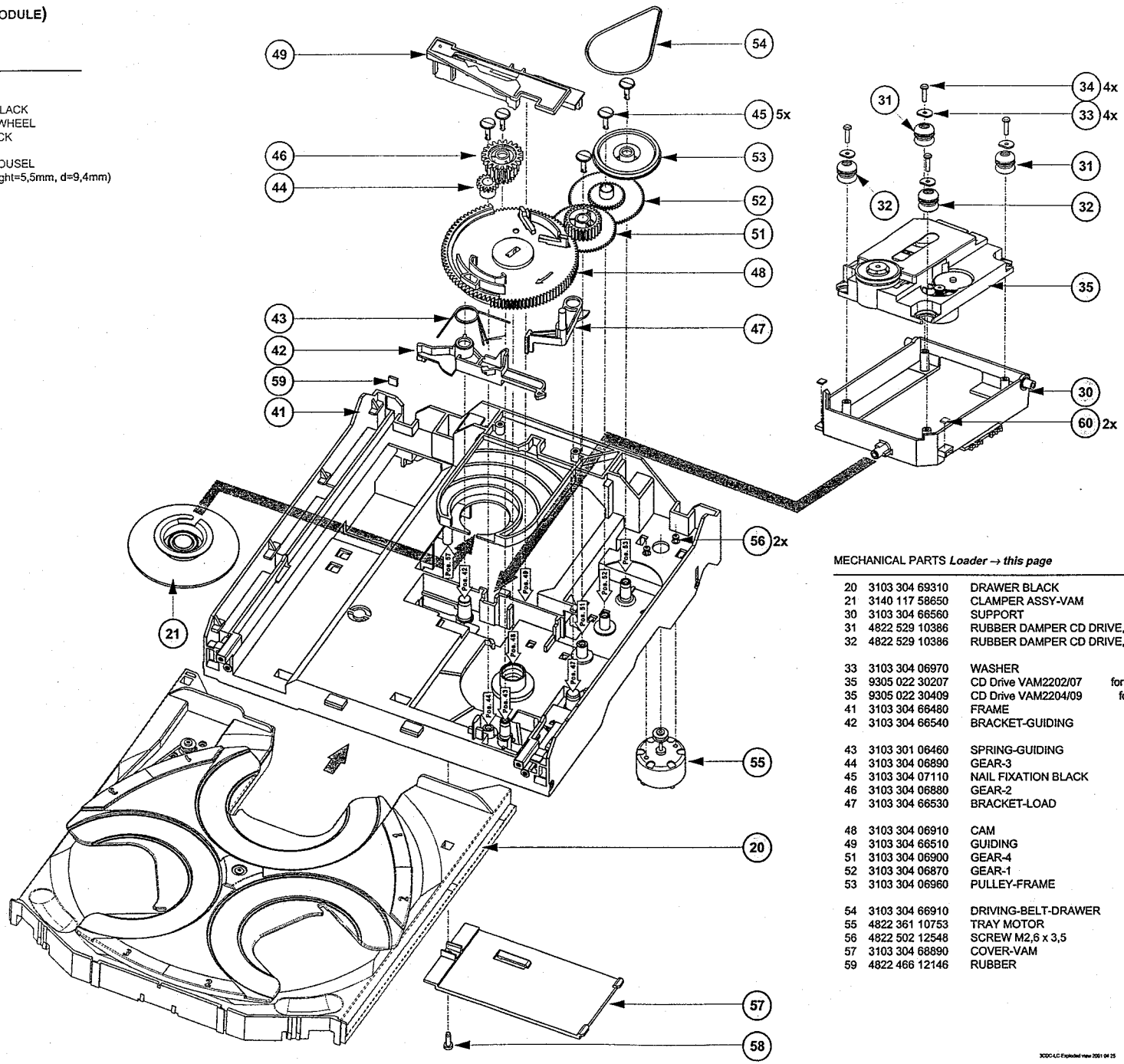
Y non spare part

8-9

EXPLODED VIEW (3CDC-LC MODULE)

MECHANICAL PARTS *Drawer → Chapter 8-8*

20	3103 304 69310	DRAWER BLACK
21	3103 304 69320	CAROUSEL BLACK
22	3103 304 07120	PULLEY DRAWER BLACK
23	3103 304 06850	ECCENTRIC GEAR WHEEL
24	3103 304 07110	NAIL FIXATION BLACK
25	3103 304 66850	DRIVING BELT CAROUSEL
27	4822 532 12365	BUSH DRAWER (height=5,5mm, d=9,4mm)
29	3103 304 66550	BRACKET-DISC
30	3103 304 66520	TUMBLER
31	3103 301 06470	SPRING-DISC
32	3103 304 06920	CONTROL-DISC
34	3103 304 06870	GEAR-1
37	4822 361 10753	CAROUSEL MOTOR



(X) spare part

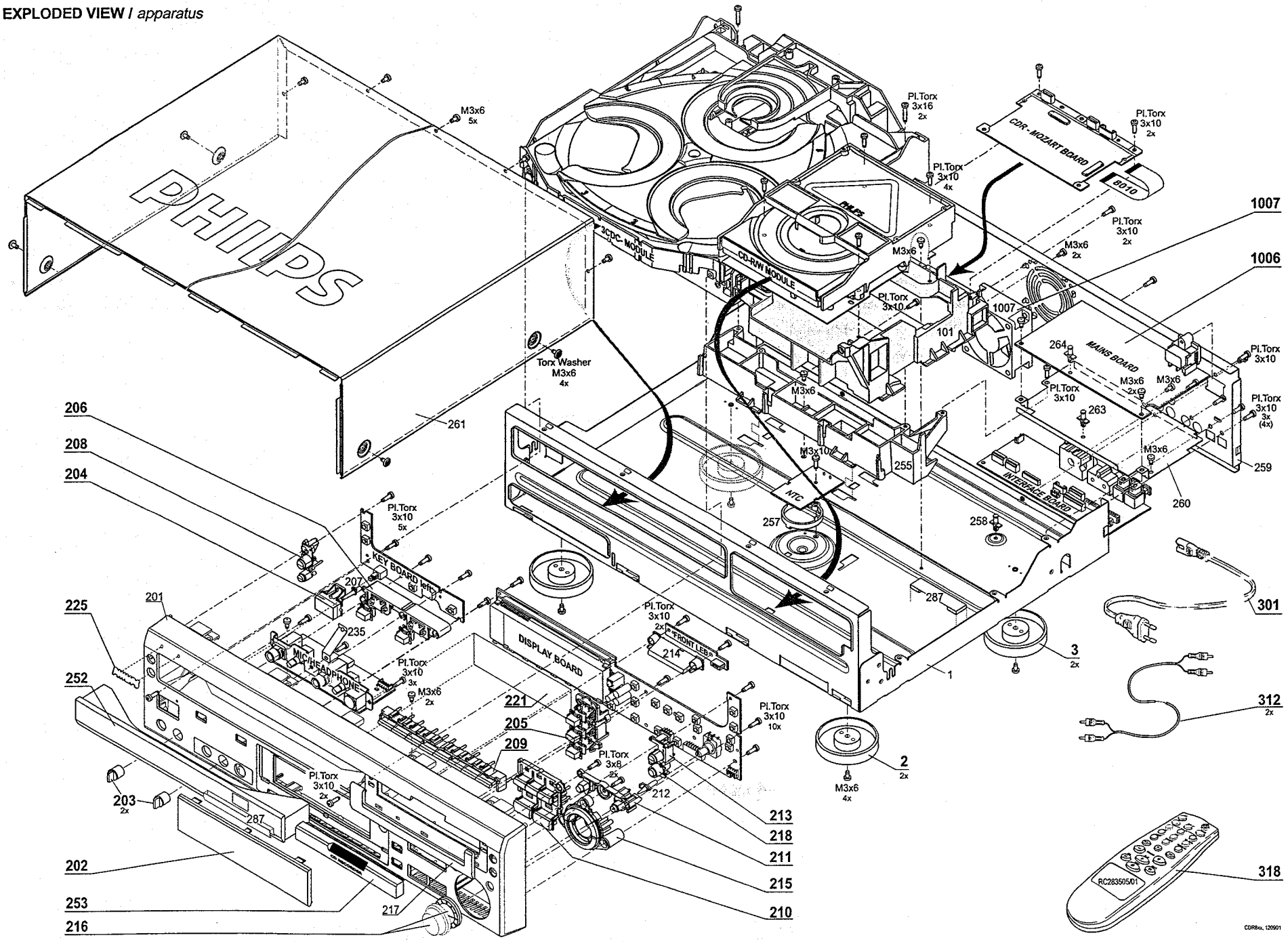
(Y) non spare part

MECHANICAL PARTS *Loader → this page*

20	3103 304 69310	DRAWER BLACK	
21	3140 117 58650	CLAMPER ASSY-VAM	
30	3103 304 66560	SUPPORT	
31	4822 529 10386	RUBBER DAMPER CD DRIVE, REAR	
32	4822 529 10386	RUBBER DAMPER CD DRIVE, FRONT	
33	3103 304 06970	WASHER	
35	9305 022 30207	CD Drive VAM2202/07	for Double speed
35	9305 022 30409	CD Drive VAM2204/09	for Quad speed
41	3103 304 66480	FRAME	
42	3103 304 66540	BRACKET-GUIDING	
43	3103 301 06460	SPRING-GUIDING	
44	3103 304 06890	GEAR-3	
45	3103 304 07110	NAIL FIXATION BLACK	
46	3103 304 06880	GEAR-2	
47	3103 304 66530	BRACKET-LOAD	
48	3103 304 06910	CAM	
49	3103 304 66510	GUIDING	
51	3103 304 06900	GEAR-4	
52	3103 304 06870	GEAR-1	
53	3103 304 06960	PULLEY-FRAME	
54	3103 304 66910	DRIVING-BELT-DRAWER	
55	4822 361 10753	TRAY MOTOR	
56	4822 502 12548	SCREW M2,6 x 3,5	
57	3103 304 68890	COVER-VAM	
59	4822 466 12146	RUBBER	

10-1

EXPLODED VIEW / *apparatus*



MECHANICAL PARTSLIST *apparatus*

MECHANICAL PARTS

2	4822 462 11174	FOOT, SILVER	
3	4822 462 11174	FOOT, SILVER	*CDR8x2 only*
3	4822 462 42158	FOOT, BLACK	*CDR800 only*
202	3103 308 10050	DISPLAY-WINDOW, PRINTED	
203	3103 304 70030	KNOB, BLACK	
203	3103 308 10390	KNOB, SILVER	
204	3103 304 69990	BUTTON, POWER ON/OFF, BLACK	
204	3103 308 10350	BUTTON, POWER ON/OFF, SILVER	
205	3103 308 10070	BUTTONSET, CD1-3	
206	3103 308 10080	BUTTONSET, AUX-CDR	
208	3103 308 10060	BUTTONSET, OPEN/CL 3CDC, BLACK	
208	3103 308 10370	BUTTONSET, OPEN/CL 3CDC, SILVER	
209	3103 304 70050	BUTTONSET, DISPLAY, BLACK	
209	3103 308 10410	BUTTONSET, DISPLAY, SILVER	
210	3103 308 10090	BUTTONSET, PLAY-STOP, BLACK	
210	3103 308 10430	BUTTONSET, PLAY-STOP, SILVER	
211	3103 304 70080	BUTTONSET, YES-NO, BLACK	
211	3103 308 10450	BUTTONSET, YES-NO, SILVER	
213	3103 308 10100	BUTTONSET, OPEN/CL CDR, BLACK	
213	3103 308 10470	BUTTONSET, OPEN/CL CDR , SILVER	
215	3103 308 10120	BUTTONSET, PREV-NEXT, BLACK	
215	3103 308 10510	BUTTONSET, PREV-NEXT, SILVER	
CDR8ox:			
216	3103 304 70130	KNOB, JOG-ROTARY CDR80x, BLACK	
216	3103 308 10530	KNOB, JOG-ROTARY CDR80x, SILVER	
CDR82x:			
216	3103 304 70950	KNOB, JOG-ROTARY CDR82x, BLACK	
216	3103 308 10780	KNOB, JOG-ROTARY CDR82x, SILVER	
218	3103 308 10110	BUTTON, SPEED, BLACK	
218	3103 308 10490	BUTTON, SPEED, SILVER	
221	3103 304 70590	FILTER FOIL, FTD-CDR80x/82x	
225	3139 240 00040	WORDMARK „PHILIPS" SILVER BACKGR.	
CDR8ox:			
252	3103 308 10010	ORNAMENT. COVER, 3CDC, BLACK	
252	3103 308 10270	ORNAMENT. COVER, 3CDC, SILVER	
CDR82x:			
252	3103 308 11970	ORNAMENT. COVER, 3CDC, BLACK	
252	3103 308 11980	ORNAMENT. COVER, 3CDC, SILVER	
CDR8ox:			
253	3103 308 10030	ORNAMENTAL COVER, CDR, BLACK	
253	3103 308 10310	ORNAMENTAL COVER, CDR, SILVER	
CDR82x:			
253	3103 308 10040	ORNAMENTAL COVER, CDR, BLACK	
253	3103 308 10330	ORNAMENTAL COVER, CDR, SILVER	

MISCELLANEOUS

301	2422 070 98151	MAINS CORD, EUROPE
301	2422 070 98152	MAINS CORD, USA
312	3103 308 92610	AUDIO CABLE STEREO CINCH 1.5m
318	3139 228 84060	REMOTE CONTROL, RC283505/01, black
1006	3103 308 53880	POWER BOARD, SMPS CDR8xx/00
1006	3103 308 53890	POWER BOARD, SMPS CDR8xx/17
1006	3103 308 53900	POWER BOARD, SMPS CDR8xx/01
1007	3103 308 52950	FAN, KD120 6PTS 3 - C112
8002	3103 308 92940	FLEXFOIL CABLE, 17P, 140mm AD
8003	3103 308 92950	FLEXFOIL CABLE, 7P, 160mm BD
8005	3139 110 34470	FLEXFOIL CABLE, 7P, 80mm AD
8008	3139 110 34680	FLEXFOIL CABLE, 6P, 340mm BD
8012	3139 110 35380	FLEXFOIL CABLE, 6P, 480mm BD
8013	3139 110 35390	FLEXFOIL CABLE, 8P, 480mm BD
8014	3103 308 92810	FLEXFOIL CABLE, 9P, 340mm AD
8016	3139 110 35420	FLEXFOIL CABLE, 15P, 340mm AD

ELECTRICAL PARTSLIST *DISPLAY BOARD*

MISCELLANEOUS

1416	4822 267 10956	FFC-CONNECTOR, 7P, SIDE ENTRY
1417	4822 265 11207	FFC-CONNECTOR, 6P, SIDE ENTRY
1418	4822 265 10979	FFC-CONNECTOR,15P, SIDE ENTRY
1419	2422 129 16545	ROTARY ENCODER, JOG CONTROL
1420	4822 276 13775	TACT SWITCH
1421	4822 276 13775	TACT SWITCH
1422	4822 276 13775	TACT SWITCH
1423	4822 276 13775	TACT SWITCH
1424	4822 276 13775	TACT SWITCH
1425	4822 276 13775	TACT SWITCH
1426	4822 276 13775	TACT SWITCH
1427	4822 276 13775	TACT SWITCH
1428	4822 276 13775	TACT SWITCH
1429	4822 276 13775	TACT SWITCH
1430	4822 276 13775	TACT SWITCH
1431	4822 276 13775	TACT SWITCH
1432	4822 276 13775	TACT SWITCH
1433	4822 276 13775	TACT SWITCH
1434	4822 276 13775	TACT SWITCH
1435	4822 276 13775	TACT SWITCH
1436	4822 276 13775	TACT SWITCH
1437	4822 276 13775	TACT SWITCH
1438	4822 276 13775	TACT SWITCH
1439	4822 276 13775	TACT SWITCH
1440	4822 276 13775	TACT SWITCH
1441	4822 276 13775	TACT SWITCH
7402	3103 308 53960	DISPLAY, FTD CDR8xx
7402	3103 308 53970	DISPLAY, FTD CDR820
7403	4822 130 10165	GP1U28XP, IR EYE

CAPACITORS

2400©	4822 126 14305	100nF	10%	16V
2401©	4822 126 14238	2,2nF	10%	50V
2402©	5322 126 11583	10nF	10%	63V
2403©	5322 126 11583	10nF	10%	63V
2404©	5322 126 11578	1nF	10%	63V
2405©	5322 126 11578	1nF	10%	63V
2406©	4822 126 14585	100nF	10%	50V
2407©	4822 126 14305	100nF	10%	16V
2408©	4822 122 33752	15pF	5%	50V
2409©	4822 122 33752	15pF	5%	50V
2410©	5322 126 11583	10nF	10%	63V
2411©	3198 017 44740	470nF	20%	10V
2412©	5322 126 11583	10nF	10%	63V
2413	4822 124 41751	47µF	20%	16V
2414	4822 124 41751	47µF	20%	16V
2415	4822 124 40433	47µF	20%	25V
2416©	4822 126 14305	100nF	10%	16V
2418	4822 124 40433	47µF	20%	25V
2420©	5322 126 11583	10nF	10%	63V
2421©	4822 126 14508	180pF	5%	50V

RESISTORS

3400©	4822 051 30683	68kΩ	5%	0,06W
3401©	4822 051 30683	68kΩ	5%	0,06W
3402©	4822 051 30683	68kΩ	5%	0,06W
3403©	4822 051 30683	68kΩ	5%	0,06W
3404©	4822 051 30683	68kΩ	5%	0,06W
3405©	4822 051 30683	68kΩ	5%	0,06W
3406©	4822 051 30683	68kΩ	5%	0,06W
3407©	4822 051 30683	68kΩ	5%	0,06W
3408©	4822 051 30683	68kΩ	5%	0,06W
3409©	4822 051 30683	68kΩ	5%	0,06W

ELECTRICAL PARTSLIST *DISPLAY BOARD*

RESISTORS

3410©	4822 051 30683	68kΩ	5%	0,06W
3411©	4822 051 30683	68kΩ	5%	0,06W
3412©	4822 051 30683	68kΩ	5%	0,06W
3413©	4822 051 30683	68kΩ	5%	0,06W
3414©	4822 051 30683	68kΩ	5%	0,06W
3415©	4822 051 30683	68kΩ	5%	0,06W
3416©	4822 051 30683	68kΩ	5%	0,06W
3417©	4822 051 30683	68kΩ	5%	0,06W
3418©	4822 051 30683	68kΩ	5%	0,06W
3419©	4822 051 30683	68kΩ	5%	0,06W
3420	4822 050 11002	1kΩ	5%	0,2W
3421©	4822 051 30272	2,7kΩ	5%	0,06W
3422©	4822 051 30103	10kΩ	5%	0,06W
3423©	4822 051 30221	220Ω	5%	0,06W
3424	4822 116 52175	100Ω	5%	0,5W
3425©	4822 051 30471	470Ω	5%	0,06W
3426©	4822 117 12968	820Ω	5%	0,06W
3427©	4822 051 30471	470Ω	5%	0,06W
3428©	4822 051 30471	470Ω	5%	0,06W
3429©	4822 051 30471	470Ω	5%	0,06W
3430©	4822 051 30471	470Ω	5%	0,06W
3431©	4822 051 30471	470Ω	5%	0,06W
3432	4822 116 52175	100Ω	5%	0,5W
3433©	4822 051 30221	220Ω	5%	0,06W
3434©	4822 051 30471	470Ω	5%	0,06W
3435©	4822 051 30471	470Ω	5%	0,06W
3436©	4822 051 30471	470Ω	5%	0,06W
3437©	4822 051 30471	470Ω	5%	0,06W
3438©	4822 051 30101	100Ω	5%	0,06W
3439©	4822 051 30103	10kΩ	5%	0,06W
3440	4822 050 11002	1kΩ	5%	0,2W
3441©	4822 051 30103	10kΩ	5%	0,06W
3442©	4822 051 30103	10kΩ	5%	0,06W
3443©	4822 051 30471	470Ω	5%	0,06W
3444©	4822 051 30471	470Ω	5%	0,06W
3445©	4822 051 30471	470Ω	5%	0,06W
3446©	4822 051 30471	470Ω	5%	0,06W
3447©	4822 051 30471	470Ω	5%	0,06W
3448©	4822 051 30471	470Ω	5%	0,06W
3449©	4822 051 30272	2,7kΩ	5%	0,06W
3450	4822 116 83868	150Ω	5%	0,5W
3451	4822 116 83872	220Ω	5%	0,5W
3452	4822 116 83876	270Ω	5%	0,16W
3453©	4822 051 30391	390Ω	5%	0,06W
3454©	4822 051 30561	560Ω	5%	0,06W
3455©	4822 117 12968	820Ω	5%	0,06W
3456©	4822 117 11817	1,2kΩ	1%	0,06W
3457©	4822 117 12903	1,8kΩ	1%	0,06W
3458©	4822 051 30392	3,9kΩ	5%	0,06W
3459©	4822 051 30103	10kΩ	5%	0,06W
3460©	4822 051 30272	2,7kΩ	5%	0,06W
3461©	4822 051 30151	150Ω	5%	0,06W
3462©	4822 051 30221	220Ω	5%	0,06W
3463	4822 116 83876	270Ω	5%	0,16W
3464	4822 116 83881	390Ω	5%	0,5W
3465	4822 116 52226	560Ω	5%	0,5W
3466©	4822 117 12968	820Ω	5%	0,06W
3467©	4822 117 11817	1,2kΩ	1%	0,06W
3468©	4822 117 12903	1,8kΩ	1%	0,06W
3469©	4822 051 30392	3,9kΩ	5%	0,06W
3470©	4822 051 30103	10kΩ	5%	0,06W
3471©	4822 051 30102	1kΩ	5%	0,06W
3472©	4822 117 12891	220kΩ	1%	0,06W

RESISTORS

3473©	4822 117 12891	220kΩ	1%	0,06W	
3474 ⚠	4822 052 10398	3,9Ω	5%	0,33W	for CDR82x
3475©	4822 051 30103	10kΩ	5%	0,06W	
3477	4822 116 52175	100Ω	5%	0,5W	
3478©	4822 051 30103	10kΩ	5%	0,06W	
3479©	4822 051 30101	100Ω	5%	0,06W	
3480©	4822 051 30103	10kΩ	5%	0,06W	
3481©	4822 051 30101	100Ω	5%	0,06W	
3482	4822 050 21003	10kΩ	2%	0,25W	
3484©	4822 051 30471	470Ω	5%	0,06W	
3485©	4822 051 30471	470Ω	5%	0,06W	
3486©	4822 051 30472	4,7kΩ	5%	0,06W	
3487©	4822 051 30472	4,7kΩ	5%	0,06W	
3488©	4822 051 30682	6,8kΩ	5%	0,06W	
3489©	4822 051 30103	10kΩ	5%	0,06W	
3490©	4822 051 30101	100Ω	5%	0,06W	
3491©	4822 051 30103	10kΩ	5%	0,06W	
3492©	4822 051 30101	100Ω	5%	0,06W	
3493©	4822 051 30103	10kΩ	5%	0,06W	
3494©	4822 051 30272	2,7kΩ	5%	0,06W	
3495©	4822 051 30103	10kΩ	5%	0,06W	
3496©	4822 051 30103	10kΩ	5%	0,06W	
3498	4822 050 21003	10kΩ	2%	0,25W	
3499©	4822 051 30102	1kΩ	5%	0,06W	
3500	4822 050 21003	10kΩ	2%	0,25W	
3501	4822 116 52175	100Ω	5%	0,5W	
3502	4822 116 52175	100Ω	5%	0,5W	
3503©	4822 051 30471	470Ω	5%	0,06W	
3504©	4822 051 30471	470Ω	5%	0,06W	
3505©	4822 051 30151	150Ω	5%	0,06W	
3506	4822 050 21003	10kΩ	2%	0,25W	
3510©	4822 051 30103	10kΩ	5%	0,06W	
3511©	4822 051 30109	10Ω	5%	0,06W	
3512©	4822 051 30109	10Ω	5%	0,06W	
3513	4822 116 83883	470Ω	5%	0,16W	
3514©	4822 051 30008	CHIP JUMPER 0603			for CDR80x
3514©	4822 051 30121	120Ω	5%	0,0625W	for CDR82x
3515©	4822 051 30008	CHIP JUMPER 0603			for CDR80x
3515©	4822 051 30121	120Ω	5%	0,0625W	for CDR82x
3516 ⚠	4822 052 10228	2,2Ω	5%	0,33W	
4401©	4822 051 30008	CHIP JUMPER 0603			
4402©	4822 051 30008	CHIP JUMPER 0603			
4404©	4822 051 30008	CHIP JUMPER 0603			
4405©	4822 051 30008	CHIP JUMPER 0603			
4407©	4822 051 30008	CHIP JUMPER 0603			

COILS

1400	2422 540 98526	RESONATOR 10MHz
5400	4822 157 62552	2,2µH
5402	4822 157 62552	2,2µH

DIODES

6400	3198 010 53980	DIO REG BZX79-B3V9
6428©	9322 147 85685	LST770-KL, LED RED
6429©	9322 147 83685	LBT776-K1L1, LED BLUE
6431©	9322 147 84685	LGT770-LM, LED GREEN
6432©	9322 147 84685	LGT770-LM, LED GREEN
6433©	9322 147 84685	LGT770-LM, LED GREEN
6434	4822 130 30621	1N4148

ELECTRICAL PARTSLIST *DISPLAY BOARD*

TRANSISTORS

7405©	4822 130 60511	BC847B
7406©	4822 130 60511	BC847B
7407©	4822 130 60511	BC847B
7408©	4822 130 60511	BC847B
7410©	4822 130 60373	BC856B
7411©	4822 130 60373	BC856B
7412©	4822 130 60511	BC847B
7413©	4822 130 60511	BC847B
7415©	4822 130 60511	BC847B
7416©	4822 130 60511	BC847B
7417©	4822 130 60511	BC847B
7418©	4822 130 60511	BC847B

INTEGRATED CIRCUITS

7409©	9965 000 04931	M24C01-WMN6, EEPROM
7414©	9322 158 24671	M30218FCFP, µP, FLASH VERSION

ELECTRICAL PARTSLIST *KEY left BOARD*

MISCELLANEOUS

1480	2422 128 02929	SWITCH, POWER ON/OFF
1481	4822 276 13775	TACT SWITCH
1482	4822 276 13775	TACT SWITCH
1483	4822 276 13775	TACT SWITCH
1484	4822 276 13775	TACT SWITCH
1485	4822 267 10956	FFC-CONNECTOR, 7P, SIDE ENTRY

CAPACITORS

2480©	4822 122 31765	100pF	5%	50V

RESISTORS

3520©	4822 051 30151	150Ω	5%	0,06W
3521©	4822 051 30221	220Ω	5%	0,06W
3522	4822 116 83876	270Ω	5%	0.16W
3523©	4822 051 30391	390Ω	5%	0,062W

DIODES

6480©	9322 147 85685	LST770-KL, LED RED
6481©	9322 147 84685	LGT770-LM, LED GREEN
6482©	9322 147 84685	LGT770-LM, LED GREEN

ELECTRICAL PARTSLIST *FRONT LED BOARD*

RESISTORS

3530©	4822 051 30221	220Ω	5%	0,06W
3531©	4822 051 30689	68Ω	5%	0,0625W
3532©	4822 051 30221	220Ω	5%	0,06W
3533©	4822 051 30689	68Ω	5%	0,0625W
3534©	4822 051 30221	220Ω	5%	0,06W

DIODES

6490©	9322 147 85685	LST770-KL, LED RED
6491©	9322 147 83685	LBT776-K1L1, LED BLUE
6492©	9322 147 85685	LST770-KL, LED RED
6493©	9322 147 83685	LBT776-K1L1, LED BLUE
6494©	9322 147 85685	LST770-KL, LED RED

ELECTRICAL PARTSLIST *HEADPHONE BOARD*

MISCELLANEOUS

1660	4822 267 31453	HEADPHONE SOCKET 6,3mm
1661	4822 267 31453	MICROPHONE SOCKET 6,3mm
1662	4822 265 11207	FFC-CON., 6P, SIDE ENTRY for CDR80x
1662	4822 265 11535	FFC-CON., 8P, SIDE ENTRY for CDR82x
1663	2422 026 05245	SOCKET, PS2 PC-KEYBOARD

CAPACITORS

2660©	5322 126 11579	3,3nF	10%	63V	
2661©	5322 126 11579	3,3nF	10%	63V	
2662©	4822 126 14305	100nF	10%	16V	layout stage .6
2664©	4822 126 14315	390pF	5%	50V	
2665©	4822 126 14315	390pF	5%	50V	
2666	4822 124 81286	47µF	20%	16V	
2667	4822 124 81286	47µF	20%	16V	
2668©	4822 126 13881	470pF	5%	50V	
2669©	4822 126 13881	470pF	5%	50V	
2670	4822 124 12032	4,7µF	20%	50V	
2671	4822 124 12032	4,7µF	20%	50V	
2672©	5322 126 11578	1nF	10%	63V	
2673©	5322 126 11578	1nF	10%	63V	
2674	4822 124 22652	2,2µF	20%	50V	
2675	4822 124 22652	2,2µF	20%	50V	
2676©	5322 126 11579	3,3nF	10%	63V	
2677©	5322 126 11579	3,3nF	10%	63V	
2678©	3198 016 31020	1nF	5%	25V	
2679©	3198 016 31020	1nF	5%	25V	
2680	4822 124 22651	1µF	20%	50V	
2681	4822 124 22651	1µF	20%	50V	
2682	4822 124 81286	47µF	20%	16V	
2683	4822 124 81286	47µF	20%	16V	
2684©	3198 016 31020	1nF	5%	25V	
2685©	3198 016 31020	1nF	5%	25V	
2686	4822 124 12032	4,7µF	20%	50V	
2687	4822 124 12032	4,7µF	20%	50V	
2688©	4822 126 14305	100nF	10%	16V	layout stage .5 for CDR82x
2689©	4822 126 14305	100nF	10%	16V	for CDR82x
2689©	4822 051 30008	CHIP JUMPER 0603			for CDR80x
2690©	4822 126 14305	100nF	10%	16V	
2691©	4822 126 14305	100nF	10%	16V	
2692©	4822 126 14305	100nF	10%	16V	
2693©	4822 126 14315	390pF	5%	50V	
2694©	4822 126 14315	390pF	5%	50V	
2695©	4822 126 14305	100nF	10%	16V	
2696©	4822 126 14305	100nF	10%	16V	

RESISTORS

3660©	4822 117 12139	22Ω	5%	0,06W
3661©	4822 117 12139	22Ω	5%	0,06W
3662©	4822 051 30221	220Ω	5%	0,06W
3663©	4822 051 30221	220Ω	5%	0,06W
3664©	4822 051 30101	100Ω	5%	0,06W
3665©	4822 051 30101	100Ω	5%	0,06W
3666©	4822 051 30103	10kΩ	5%	0,06W
3667©	4822 051 30103	10kΩ	5%	0,06W
3668 ⚠	4822 052 10109	10Ω	5%	NFR
3669 ⚠	4822 052 10109	10Ω	5%	NFR
3670©	4822 051 30472	4,7kΩ	5%	0,06W
3671©	4822 051 30472	4,7kΩ	5%	0,06W
3672©	4822 051 30103	10kΩ	5%	0,06W
3673©	4822 051 30103	10kΩ	5%	0,06W
3674©	4822 051 30102	1kΩ	5%	0,06W
3675©	4822 051 30102	1kΩ	5%	0,06W
3676	4822 101 21199	POTMETER 2x10KΩ		

RESISTORS

3677	4822 101 21199	POTMETER 2x10KΩ		
3678©	4822 051 30103	10kΩ	5%	0,06W
3679©	4822 051 30103	10kΩ	5%	0,06W
3680©	4822 051 30689	68Ω	5%	0,06W
3681©	4822 051 30689	68Ω	5%	0,06W
3682©	4822 051 30222	2,2kΩ	5%	0,06W
3683©	4822 051 30222	2,2kΩ	5%	0,06W
3684©	4822 051 30689	68Ω	5%	0,06W
3685©	4822 051 30689	68Ω	5%	0,06W
3686©	4822 051 30392	3,9kΩ	5%	0,06W
3687©	4822 051 30392	3,9kΩ	5%	0,06W
3688©	4822 051 30101	100Ω	5%	0,06W
3689©	4822 051 30101	100Ω	5%	0,06W
3690©	4822 051 30472	4,7kΩ	5%	0,06W
3691©	4822 051 30472	4,7kΩ	5%	0,06W
3692	4822 116 83883	470Ω	5%	0,16W
3693	4822 116 83883	470Ω	5%	0,16W
4601©	4822 051 30008	CHIP JUMPER 0603		
4602©	4822 051 30008	CHIP JUMPER 0603		
4603©	4822 051 30008	CHIP JUMPER 0603		

DIODES

6660	4822 130 30621	1N4148
6661	4822 130 30621	1N4148
6662	4822 130 30621	1N4148
6663	4822 130 30621	1N4148

INTEGRATED CIRCUITS

7660©	4822 209 31378	NJM4556M, 2-FOLD OP-AMP.
7661©	4822 209 30095	LM833D, 2-FOLD OP-AMP.
7662©	4822 209 30095	LM833D, 2-FOLD OP-AMP.

ELECTRICAL PARTSLIST *INTERFACE BOARD*

MISCELLANEOUS

1302	4822 265 11515	FFC-CON., 8P, TOP ENTRY	for CDR82x
1302	4822 267 10731	FFC-CON., 6P, TOP ENTRY	for CDR80x
1303	4822 267 10953	FFC-CON., 7P, TOP ENTRY	
1305	2422 025 17066	FFC-CON., 17P, TOP ENTRY	for CDR82x
1307	4822 265 10981	FFC-CON., 15P, TOP ENTRY	
1308	2422 025 14518	FFC-CON., 9P, TOP ENTRY	
1314	4822 267 31448	CINCH SOCKET, 2-FOLD	
1315	4822 265 11151	CINCH SOCKET, 4-FOLD	
7312	9322 155 48687	OPTICAL IN CONNECT. GP1FA550RZ	
7313	9322 155 28667	OPTICAL OUT CONNECT. GP1FA550TZ	

CAPACITORS

2300©	4822 126 14305	100nF	10%	16V	
2302	4822 124 40196	220µF	20%	16V	
2304	4822 124 40196	220µF	20%	16V	
2305©	4822 126 14305	100nF	10%	16V	
2306	4822 124 40433	47µF	20%	25V	
2308©	2222 867 15339	33pF	5%	50V	
2309©	2222 867 15339	33pF	5%	50V	
2310	4822 124 40433	47µF	20%	25V	
2311©	4822 126 14305	100nF	10%	16V	
2312	4822 124 40433	47µF	20%	25V	
2313©	4822 126 14305	100nF	10%	16V	
2314	4822 124 80791	470µF	20%	16V	
2315	4822 124 40207	100µF	20%	25V	
2316©	4822 126 14305	100nF	10%	16V	
2318	4822 121 70654	2,2nF	10%	50V	
2319	4822 121 70654	2,2nF	10%	50V	
2320©	4822 126 14305	100nF	10%	16V	
2321	4822 124 80791	470µF	20%	16V	
2322	4822 124 21913	1µF	20%	63V	
2324	4822 124 80791	470µF	20%	16V	
2325©	4822 122 33753	150pF	5%	50V	
2326©	4822 122 33753	150pF	5%	50V	
2327	4822 124 40207	100µF	20%	25V	
2328©	5322 126 11583	10nF	10%	63V	
2329	4822 124 40769	4,7µF	20%	100V	
2336©	4822 126 14305	100nF	10%	16V	
2338©	4822 126 14305	100nF	10%	16V	
2339©	4822 126 14305	100nF	10%	16V	
2340©	4822 126 14305	100nF	10%	16V	
2341©	4822 122 33753	150pF	5%	50V	
2342©	4822 126 14305	100nF	10%	16V	
2343©	3198 016 31020	1nF	5%	25V	
2344©	4822 126 14305	100nF	10%	16V	
2345©	2222 867 15339	33pF	5%	50V	
2346©	2222 867 15339	33pF	5%	50V	
2347©	3198 024 44730	47nF	5%	50V	layout stage .5
2348©	4822 126 14305	100nF	10%	16V	layout stage .5
2349©	4822 126 14305	100nF	10%	16V	

RESISTORS

3300©	4822 117 12925	47kΩ	1%	0,06W
3301©	4822 117 12925	47kΩ	1%	0,06W
3302©	4822 051 30332	3,3kΩ	5%	0,06W
3303©	4822 117 12902	8,2kΩ	1%	0,06W
3304©	4822 051 30152	1,5kΩ	5%	0,06W
3305©	4822 117 12902	8,2kΩ	1%	0,06W
3306©	4822 051 30103	10kΩ	5%	0,06W
3307▲	4822 052 10229	22Ω	5%	0,33W
3308©	4822 051 30479	47Ω	5%	0,06W
3309	4822 116 83872	220Ω	5%	0,5W
3310©	4822 051 30151	150Ω	5%	0,06W
3311©	4822 051 30479	47Ω	5%	0,06W
3312©	4822 051 30101	100Ω	5%	0,06W
3313©	4822 051 30479	47Ω	5%	0,06W
3314©	4822 117 12925	47kΩ	1%	0,06W
3315	4822 116 83872	220Ω	5%	0,5W
3316©	4822 051 30102	1kΩ	5%	0,06W
3317©	4822 051 30102	1kΩ	5%	0,06W
3318	4822 116 83872	220Ω	5%	0,5W
3319©	4822 117 12925	47kΩ	1%	0,06W
3330	4822 116 52195	47Ω	5%	0,5W
3331©	4822 051 30103	10kΩ	5%	0,06W
3334©	4822 051 30102	1kΩ	5%	0,06W
3335©	4822 051 30101	100Ω	5%	0,06W
3337©	4822 051 30101	100Ω	5%	0,06W
3338©	4822 117 13632	100kΩ	1%	0,06W
3339©	4822 051 30222	2,2kΩ	5%	0,06W
3340©	4822 051 30471	470Ω	5%	0,06W
3341©	2120 108 91909	39Ω	5%	
3342	4822 116 52195	47Ω	5%	0,5W
3343©	4822 051 30561	560Ω	5%	0,06W
3344©	4822 117 12903	1,8kΩ	1%	0,06W
3345©	4822 117 11449	2,2kΩ	1%	0,1W
3346©	4822 051 30102	1kΩ	5%	0,06W
3347©	4822 051 30561	560Ω	5%	0,06W
3348©	4822 117 12925	47kΩ	1%	0,06W
3349©	4822 117 12925	47kΩ	1%	0,06W
3351	4822 116 52195	47Ω	5%	0,5W
3352©	4822 051 30479	47Ω	5%	0,06W
3353©	4822 051 30479	47Ω	5%	0,06W
3354©	4822 051 30181	180Ω	5%	0,06W
3391	4822 117 12063	10kΩ NTC		
4301©	4822 051 30008	CHIP JUMPER 0603		
4302©	4822 051 30008	CHIP JUMPER 0603		
4303©	4822 051 30008	CHIP JUMPER 0603		
4304©	4822 051 30008	CHIP JUMPER 0603		
4307©	4822 051 30008	CHIP JUMPER 0603		

COILS

5300	2422 536 00019	TRANSFORMER, DIGITAL OUT

DIODES

6300	3198 010 53380	BZX79-B3V3
6301	3198 010 53380	BZX79-B3V3

TRANSISTORS

7321	4822 130 44568	BC557B
7323©	4822 130 60511	BC847B

INTEGRATED CIRCUITS

7320©	4822 209 30095	LM833D, 2-FOLD OP-AMP.
7322©	9352 615 37118	UDA1360TS/N1, A/D-CONVERTER
7324©	4822 209 17235	74LVU04D, 6-FOLD INVERTER

ELECTRICAL PARTSLIST *3CDC-LC-CDR*

MISCELLANEOUS

35	9305 022 30207	CD Drive VAM2202/07	for Double speed
35	9305 022 30409	CD Drive VAM2204/09	for Quad speed
37	4822 361 10753	CAROUSEL MOTOR	
55	4822 361 10753	TRAY MOTOR	
1800	4822 265 10925	FFC-CONNECTOR 15P, SIDE ENTRY	
1802	2422 025 16833	FFC-CONNECTOR, 8P, SIDE ENTRY	
1805	4822 265 11531	FFC-CONNECTOR, 9P, SIDE ENTRY	
1875	4822 267 10958	FFC-CONNECTOR, 5P, SIDE ENTRY	
1876	2422 025 08332	FFC-CONNECTOR, 5P, SIDE ENTRY	
1880	4822 276 13503	SWITCH, Tray position	
1881	4822 276 13503	SWITCH, Drive up/down	
1882	4822 276 13503	SWITCH, Position1 recognized	
1883	4822 276 13503	SWITCH, valid position recognized	
8002	3103 308 91990	FLEXFOIL CABLE, 5P, 200mm AD	
8005	3103 308 91980	FLEXFOIL CABLE, 15P, 170mm AD	
8007	3139 110 53540	FLEXFOIL CABLE, 8P, 340mm AD	

CAPACITORS

2800©	4822 126 10326	180pF	5%	50V	
2801©	4822 126 13883	220pF	5%	50V	
2802©	4822 126 14508	180pF	5%	50V	
2803©	4822 126 13883	220pF	5%	50V	
2804©	4822 126 13193	4,7nF	10%	63V	
2805©	4822 126 13883	220pF	5%	50V	
2806©	4822 126 13883	220pF	5%	50V	
2807©	5322 122 31863	330pF	5%	50V	
2808©	4822 126 13883	220pF	5%	50V	
2809©	4822 126 13879	220nF	20%	16V	
2810©	4822 126 10326	180pF	5%	50V	
2811©	4822 126 13883	220pF	5%	50V	
2812©	3198 017 34730	47nF	10%	16V	
2813©	4822 122 33177	10nF	20%	50V	
2813©	4822 122 33891	3,3nF	10%	63V	
2814©	4822 122 33216	270pF	5%	50V	
2815©	4822 126 14076	220nF	20%	25V	
2816©	4822 126 13344	1,5nF	5%	63V	
2817	4822 124 40769	4,7µF	20%	100V	
2818©	4822 126 13344	1,5nF	5%	63V	
2819	4822 124 40769	4,7µF	20%	100V	
2820©	5322 126 11578	1nF	10%	63V	
2822©	2238 861 15182	1,8nF	5%	50V	
2823©	4822 122 33777	47pF	5%	63V	for Double speed
2823©	5322 122 32658	22pF	5%	50V	for Quad speed
2824©	4822 126 13751	47nF	10%	50V	
2825©	5322 122 31866	6,8nF	10%	63V	
2826	4822 124 12362	47µF	20%	4V	
2827©	5322 122 34099	470pF	10%	63V	
2828	4822 124 12362	47µF	20%	4V	
2829©	4822 126 11669	27pF	10%	50V	
2831©	4822 126 13751	47nF	10%	50V	
2833©	2222 867 15339	33pF	5%	50V	
2834©	2222 867 15339	33pF	5%	50V	
2835©	3198 017 34730	47nF	10%	16V	
2836	4822 124 40769	4,7µF	20%	100V	
2837	4822 124 22726	4,7µF	20%	35V	
2839	4822 124 40433	47µF	20%	25V	
2840©	4822 126 13751	47nF	10%	50V	
2841©	4822 122 33575	220pF	5%	50V	
2842©	4822 126 13883	220pF	5%	50V	
2843©	4822 126 14585	100nF	10%	50V	
2844©	5322 126 10794	220pF	10%	50V	
2845	5322 124 41948	0,47µF	20%	50V	
2848©	4822 126 14585	100nF	10%	50V	
2849©	4822 126 14585	100nF	10%	50V	
2850©	5322 122 32268	470pF	10%	50V	
2859©	4822 126 13956	68pF	5%	63V	
2860	4822 124 11947	10µF	20%	16V	
2866©	4822 126 13751	47nF	10%	50V	
2872©	3198 017 34730	47nF	10%	16V	
2873	4822 124 80231	47µF	20%	16V	
2877©	4822 126 14226	82pF		50V	
2878©	4822 126 13883	220pF	5%	50V	
2881	4822 124 40769	4,7µF	20%	100V	
2883©	4822 126 13883	220pF	5%	50V	
2884©	5322 122 33861	120pF	5%	NP0	
2885©	4822 126 14043	1µF	20%	16V	
2886©	4822 122 33177	10nF	20%	50V	
2887©	5322 126 10511	1nF	5%	50V	
2889©	4822 122 33777	47pF	5%	63V	

RESISTORS

2822©	4822 051 20008	CHIP JUMPER 0805		
3700©	4822 117 12925	47kΩ	1%	0,06W
3702©	4822 117 12521	68Ω	1%	0,1W
3703©	4822 051 20332	3,3kΩ	5%	0,1W
3709©	4822 051 10102	1kΩ	2%	0,25W
3709©	4822 051 20008	CHIP JUMPER 0805		
3712©	4822 117 12917	1Ω	5%	0,06W
3713©	4822 051 30223	22kΩ	5%	0,06W
3714©	4822 051 30103	10kΩ	5%	0,06W
3715©	4822 117 13632	100kΩ	1%	0,06W
3716©	4822 051 30101	100Ω	5%	0,06W
3717©	4822 117 12917	1Ω	5%	0,06W
3719©	4822 051 30392	3,9kΩ	5%	0,06W
3720©	4822 051 30562	5,6kΩ	5%	0,06W
3721©	4822 051 30223	22kΩ	5%	0,06W
3722©	4822 051 30392	3,9kΩ	5%	0,06W
3724©	4822 117 12955	2,7kΩ	1%	0,1W
3725©	4822 117 13577	330Ω	1%	0,1W
3726©	4822 051 30271	270Ω	5%	0,06W
3727©	4822 051 30102	1kΩ	5%	0,06W
3728©	4822 051 30102	1kΩ	5%	0,06W
3729©	4822 117 11817	1,2kΩ	1%	0,06W
3730©	4822 051 20333	33kΩ	5%	0,1W
3735©	4822 051 30223	22kΩ	5%	0,06W
3736©	4822 117 12925	47kΩ	1%	0,06W
3737©	4822 051 20334	330kΩ	5%	0,1W
3738©	4822 051 30271	270Ω	5%	0,06W
3739©	4822 117 13632	100kΩ	1%	0,06W
3745©	4822 117 10833	10kΩ	1%	0,1W
3747©	4822 117 12925	47kΩ	1%	0,06W
3748©	4822 051 30103	10kΩ	5%	0,06W
3749©	4822 117 12521	68Ω	1%	0,1W
3752©	4822 117 12521	68Ω	1%	0,1W
3753©	4822 117 13632	100kΩ	1%	0,06W
3754©	4822 117 11503	220Ω	5%	0,1W
3755©	4822 117 11503	220Ω	5%	0,1W
3759©	4822 051 20471	470Ω	5%	0,1W
3765©	4822 051 30103	10kΩ	5%	0,06W
3766©	4822 117 10833	10kΩ	1%	0,1W
3767©	4822 051 30339	33Ω	5%	0,06W
3768©	4822 051 20334	330kΩ	5%	0,1W
3769©	4822 051 30101	100Ω	5%	0,06W
3770©	4822 051 30102	1kΩ	5%	0,06W
3771©	4822 051 30102	1kΩ	5%	0,06W
3772©	4822 051 30471	470Ω	5%	0,06W
3773©	4822 117 10833	10kΩ	1%	0,1W
3775▲	4822 052 10338	3,3Ω	5%	NFR25
3776©	4822 051 30103	10kΩ	5%	0,06W
3777©	4822 051 30393	39kΩ	5%	0,06W
3778©	4822 051 30223	22kΩ	5%	0,06W

ELECTRICAL PARTSLIST *3CDC-LC-CDR*

RESISTORS

3779©	4822 117 11454	820Ω	1%	0,1W
3780©	4822 051 30471	470Ω	5%	0,06W
3781©	4822 051 30561	560Ω	5%	0,06W
3782©	4822 051 30333	33kΩ	5%	0,06W
3800©	4822 051 30563	56kΩ	5%	0,06W
3801©	4822 051 30103	10kΩ	5%	0,06W
3802©	4822 117 11148	56kΩ	1%	0,1W
3803©	4822 117 10833	10kΩ	1%	0,1W
3805©	4822 051 30103	10kΩ	5%	0,06W
3806©	4822 051 30103	10kΩ	5%	0,06W
3807©	4822 051 30103	10kΩ	5%	0,06W
3808©	4822 051 30103	10kΩ	5%	0,06W
3809©	4822 051 30103	10kΩ	5%	0,06W
3810©	4822 051 30471	470Ω	5%	0,06W
3811©	4822 051 20273	27kΩ	5%	0,1W
3812©	4822 051 20471	470Ω	5%	0,1W
3813©	4822 051 20471	470Ω	5%	0,1W
3814©	4822 051 20471	470Ω	5%	0,1W
3815▲	4822 052 10478	4,7Ω	5%	NFR25
3819©	4822 051 20471	470Ω	5%	0,1W
3820©	4822 051 30472	4,7kΩ	5%	0,06W
3821©	4822 051 20472	4,7kΩ	5%	0,1W
3822©	4822 051 30272	2,7kΩ	5%	0,06W
3823©	4822 051 30102	1kΩ	5%	0,06W
3824©	4822 051 30102	1kΩ	5%	0,06W
3826©	4822 051 20223	22kΩ	5%	0,1W
3827©	4822 051 20273	27kΩ	5%	0,1W
3828©	4822 051 30223	22kΩ	5%	0,06W
3829©	4822 117 13608	4,7Ω	5%	0,06W
3830©	4822 116 83933	15kΩ	1%	0,1W
3831©	4822 117 10837	100kΩ	1%	0,1W
3832©	4822 117 10833	10kΩ	1%	0,1W
3833©	4822 051 30223	22kΩ	5%	0,06W
3834©	4822 051 20223	22kΩ	5%	0,1W
3835▲	2120 660 90046	0,27Ω	20%	PTC
3836©	4822 117 12889	270kΩ	1%	0,06W
3837©	4822 117 10833	10kΩ	1%	0,1W
3838©	4822 051 30103	10kΩ	5%	0,06W
3839©	4822 117 10834	47kΩ	1%	0,1W
3841©	4822 051 20273	27kΩ	5%	0,1W
3842©	4822 117 10834	47kΩ	1%	0,1W
3843©	4822 117 10834	47kΩ	1%	0,1W
3844©	4822 117 12864	82kΩ	5%	0,6W
3845©	4822 117 10834	47kΩ	1%	0,1W
3846©	4822 117 10834	47kΩ	1%	0,1W
3847©	4822 117 11148	56kΩ	1%	0,1W
3848©	4822 117 10837	100kΩ	1%	0,1W
3849©	4822 051 30103	10kΩ	5%	0,06W
3850©	4822 051 30183	18kΩ	5%	0,06W
3851©	4822 117 10834	47kΩ	1%	0,1W
3852©	4822 051 10102	1kΩ	2%	0,25W
3853©	4822 051 20471	470Ω	5%	0,1W
3854©	4822 051 30101	100Ω	5%	0,06W
3855©	4822 117 12971	15Ω	5%	0,06W
3856©	4822 117 12521	68Ω	1%	0,1W
3857©	4822 117 12521	68Ω	1%	0,1W
3861©	4822 051 30103	10kΩ	5%	0,06W
3862©	4822 051 20121	120Ω	5%	0,1W
3863©	4822 051 30339	33Ω	5%	0,06W
3864©	4822 051 30101	100Ω	5%	0,06W
3865©	4822 051 30121	120Ω	5%	0,06W
3866©	4822 051 30103	10kΩ	5%	0,06W
3871©	4822 117 11149	82kΩ	1%	0,1W
3872©	4822 051 20472	4,7kΩ	5%	0,1W
3873©	4822 051 20008	CHIP JUMPER 0805		

RESISTORS

3874©	4822 051 20008	CHIP JUMPER 0805		
3878©	4822 117 11503	220Ω	5%	0,1W
3881©	4822 117 11503	220Ω	5%	0,1W
4706©	4822 051 20008	CHIP JUMPER 0805		
4709©	4822 051 20008	CHIP JUMPER 0805		
4710©	4822 051 20008	CHIP JUMPER 0805		
4711©	4822 051 20008	CHIP JUMPER 0805		
4724©	4822 051 20008	CHIP JUMPER 0805		
4726©	4822 051 20008	CHIP JUMPER 0805		
4729©	4822 051 20008	CHIP JUMPER 0805		
4730©	4822 051 20008	CHIP JUMPER 0805		
4731©	4822 051 30008	CHIP JUMPER 0603		
4732©	4822 051 20008	CHIP JUMPER 0805		
4733©	4822 051 30008	CHIP JUMPER 0603		
4736©	4822 051 30008	CHIP JUMPER 0603		
4738©	4822 051 30008	CHIP JUMPER 0603		
4739©	4822 051 30008	CHIP JUMPER 0603		
4740©	4822 051 30008	CHIP JUMPER 0603		
4743©	4822 051 20008	CHIP JUMPER 0805		
4744©	4822 051 30008	CHIP JUMPER 0603		
4747©	4822 051 20008	CHIP JUMPER 0805		
4748©	4822 051 20008	CHIP JUMPER 0805		
4749©	4822 051 30008	CHIP JUMPER 0603		
4800©	4822 051 30008	CHIP JUMPER 0603		
4801©	4822 051 30008	CHIP JUMPER 0603		
4802©	4822 051 30008	CHIP JUMPER 0603		
4803©	4822 051 30008	CHIP JUMPER 0603		
4805©	4822 051 30008	CHIP JUMPER 0603		
4806©	4822 051 20008	CHIP JUMPER 0805		
4810©	4822 051 20008	CHIP JUMPER 0805		
4811©	4822 051 20008	CHIP JUMPER 0805		
4812©	4822 051 20008	CHIP JUMPER 0805		
4813©	4822 051 20008	CHIP JUMPER 0805		
4814©	4822 051 20008	CHIP JUMPER 0805		
4815©	4822 051 20008	CHIP JUMPER 0805		
4820©	4822 051 20008	CHIP JUMPER 0805		
4821©	4822 051 20008	CHIP JUMPER 0805		
4822©	4822 051 20008	CHIP JUMPER 0805		
4823©	4822 051 30008	CHIP JUMPER 0603		
4826©	4822 051 20008	CHIP JUMPER 0805		
4827©	4822 051 30008	CHIP JUMPER 0603		
4828©	4822 051 30008	CHIP JUMPER 0603		
4829©	4822 051 20008	CHIP JUMPER 0805		
4830©	4822 051 20008	CHIP JUMPER 0805		
4831©	4822 051 20008	CHIP JUMPER 0805		
4832©	4822 051 30008	CHIP JUMPER 0603		
4833©	4822 051 20008	CHIP JUMPER 0805		
4834©	4822 051 20008	CHIP JUMPER 0805		
4835©	4822 051 20008	CHIP JUMPER 0805		
4836©	4822 051 20008	CHIP JUMPER 0805		
4837©	4822 051 20008	CHIP JUMPER 0805		
4838©	4822 051 30008	CHIP JUMPER 0603		
4839©	4822 051 20008	CHIP JUMPER 0805		
4840©	4822 051 20008	CHIP JUMPER 0805		
4841©	4822 051 20008	CHIP JUMPER 0805		
4842©	4822 051 20008	CHIP JUMPER 0805		
4843©	4822 051 20008	CHIP JUMPER 0805		
4844©	4822 051 20008	CHIP JUMPER 0805		
4845©	4822 051 20008	CHIP JUMPER 0805		
4846©	4822 051 20008	CHIP JUMPER 0805		
4847©	4822 051 20008	CHIP JUMPER 0805		
4848©	4822 051 20008	CHIP JUMPER 0805		
4849©	4822 051 30008	CHIP JUMPER 0603		
4850©	4822 051 20008	CHIP JUMPER 0805		
4852©	4822 051 20008	CHIP JUMPER 0805		

ELECTRICAL PARTSLIST *3CDC-LC-CDR*

RESISTORS

4853©	4822 051 20008	CHIP JUMPER 0805
4854©	4822 051 30008	CHIP JUMPER 0603
4855©	4822 051 20008	CHIP JUMPER 0805
4856©	4822 051 20008	CHIP JUMPER 0805
4857©	4822 051 30008	CHIP JUMPER 0603
4858©	4822 051 20008	CHIP JUMPER 0805
4859©	4822 051 20008	CHIP JUMPER 0805
4861©	4822 051 20008	CHIP JUMPER 0805
4862©	4822 051 20008	CHIP JUMPER 0805
4863©	4822 051 20008	CHIP JUMPER 0805
4864©	4822 051 20008	CHIP JUMPER 0805
4865©	4822 051 30008	CHIP JUMPER 0603
4866©	4822 051 20008	CHIP JUMPER 0805
4867©	4822 051 30008	CHIP JUMPER 0603
4869©	4822 051 20008	CHIP JUMPER 0805
4870©	4822 051 20008	CHIP JUMPER 0805
4871©	4822 051 20008	CHIP JUMPER 0805
4872©	4822 051 20008	CHIP JUMPER 0805
4873©	4822 051 20008	CHIP JUMPER 0805
4874©	4822 051 20008	CHIP JUMPER 0805
4875©	4822 051 20008	CHIP JUMPER 0805
4877©	4822 051 30008	CHIP JUMPER 0603
4880©	4822 051 20008	CHIP JUMPER 0805
4883©	4822 051 20008	CHIP JUMPER 0805
4884©	4822 051 20008	CHIP JUMPER 0805
4885©	4822 051 20008	CHIP JUMPER 0805
4887©	4822 051 30008	CHIP JUMPER 0603
4888©	4822 051 20008	CHIP JUMPER 0805
4890©	4822 051 20008	CHIP JUMPER 0805
4891©	4822 051 30008	CHIP JUMPER 0603
4893©	4822 051 20008	CHIP JUMPER 0805
4895©	4822 051 20008	CHIP JUMPER 0805
4896©	4822 051 20008	CHIP JUMPER 0805
4897©	4822 051 20008	CHIP JUMPER 0805
4898©	4822 051 20008	CHIP JUMPER 0805

COILS

1810	4822 242 10849	CRYSTAL 8,46MHz

DIODES

6801©	4822 130 83757	BAS216	
6802©	4822 130 83757	BAS216	
6803©	4822 130 83757	BAS216	
6804©	4822 130 83757	BAS216	
6805©	4822 130 10648	BZX284-C5V6	for Quad speed
6805©	4822 130 11383	BZX284-C5V1	for Double speed
6807©	4822 130 11366	BZX284-C3V9	
6808©	4822 130 83757	BAS216	
6810	4822 130 31878	1N4003G	
6811	4822 130 31878	1N4003G	
6812©	4822 130 11397	BAS316	

TRANSISTORS

7804©	4822 130 60511	BC847B
7805©	4822 130 60511	BC847B
7806©	4822 130 60511	BC847B
7812©	4822 130 60511	BC847B
7815©	4822 130 60511	BC847B
7817©	5322 130 42718	BFS20
7819©	4822 130 60511	BC847B
7820©	4822 130 60511	BC847B
7821©	5322 130 42718	BFS20
7822	4822 130 42131	BF550
7823©	5322 130 42718	BFS20
7824©	5322 130 42718	BFS20

INTEGRATED CIRCUITS

7801©	4822 209 17286	TZA1024T/N1, HF-AMPLIFIER
7802©	9352 684 20557	SAA7325H/T/M2B, SIGNAL PROCESSOR
7803©	9322 158 56682	M63000SP, MOTOR DRIVER
7813©	5322 209 11306	HEF4094BT, SHIFT REGISTER
7814	4822 209 32852	TDA7073A/N2, MOTOR DRIVER

Compact Disc Recorder

CDR800, CDR802

CDR820, CDR822

Service
Service
Service

A02-350

Product Service Group CE Audio

Service Information

Already published Service Informations: ***none***

CORRECTION TO THE SERVICE MANUAL

- **MECHANICAL PARTSLIST**
  Correct code number for pos. 225 WORDMARK PHILIPS reads 3104 120 00290.

CHANGES IN COURSE OF PRODUCTION

- **NEW SOFTWARE**

- From production week 0152 onwards following new software versions have been implemented in the sets:

CDR80x:
Main µP 7414: **V46**
CDR module: **MO2021, B0042** (MO stands for "Mozart Board", B stands for "Basic Engine")

CDR82x:
Main µP 7414: **V34**
CDR module: **MO2021, B3201** (MO stands for "Mozart Board", B stands for "Basic Engine")

The upgrade of the CDR module addresses the following issues:
- Playback of Audio CD's which do not comply with the Red Book standard
- New features in Service Testprogram
- Detection of corrupted mp3 files and proper handling of CRC errors
- Better track time prediction for VBR encoded mp3 files
- Improved CD-TEXT indexing
- Automatic Loader Detection during startup
- Several minor improvements

Software versions V34 (CDR82x) respectively V46 (CDR80x) of the main µP 7414 enable the extended Service Testprogram which is already indicated in the Service Manual.

For updated flow charts of the Service Testprogram see attached sheets.

- From production week 0207 onwards the software of the Mozart Board has been upgraded to MO3001.

This upgrade addresses a major problem with the "Disc Recover Mode" of models CDR820, CDR822 and a few minor problems valid for all sets.

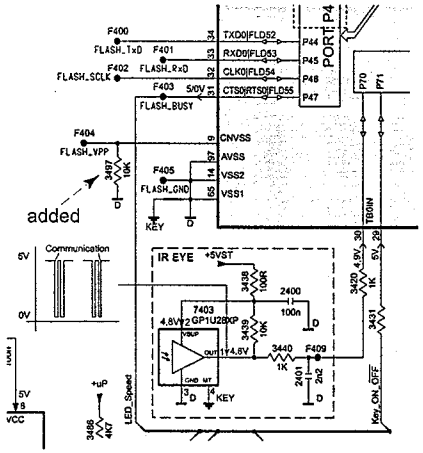
Problem "Disc Recover Mode":
After a power failure during recording, the set enters the "Disc Recover Mode" but it does never return from this mode. The display shows "Disc Recover" even after disconnecting/reconnecting mains.
The faulty disc cannot be removed because the set does not react on any button (i.e. Open/Close).
The problem can be solved by a software upgrade of the Mozart Flash ROM to "MO3001".
To remove the faulty disc from the tray proceed as follows:
1. Remove Top Cover
2. Connect mains → set will enter Recover Mode
3. Stop the disc manually until an error message is displayed
4. Press Open/Close

- **DISPLAY BOARD**

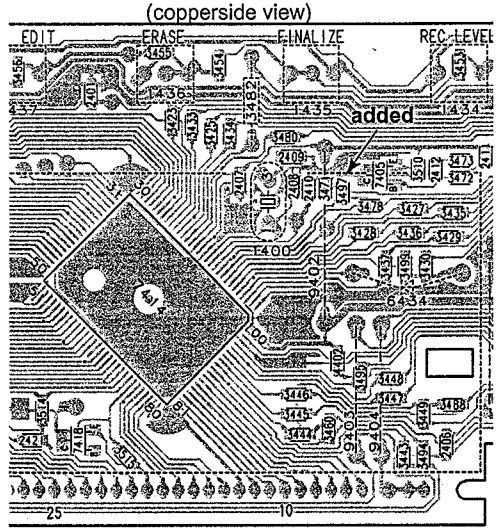
The copper pattern has been changed to layout stage .7.
(The layout stage can be identified by the last digit of the 12-figure number, located at the upper left corner of the copper pattern)

Reason: To ensure a reliable startup with the flash-version of the µP over all tolerances, resistor 3497 has been added between pin 9 of µP 7414 and ground.

3497© 4822 051 30103 10k 5% 0.06W



Portion of Display Board layout stage .7
(copperside view)



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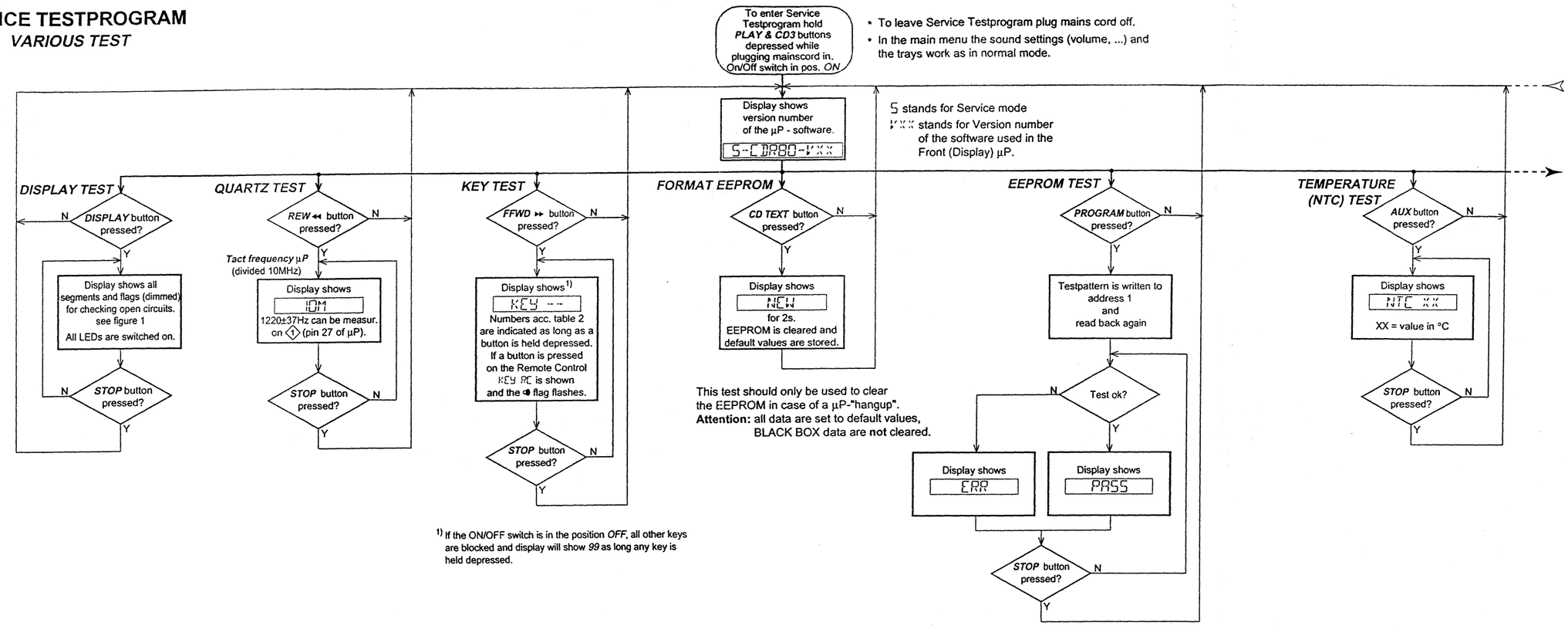
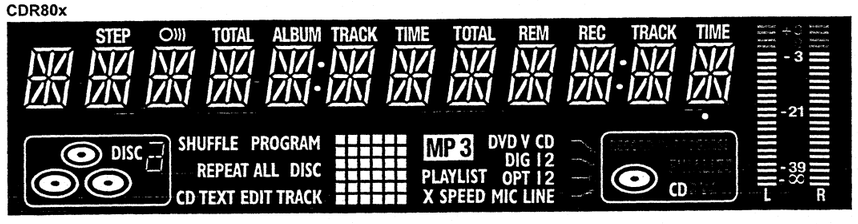
SERVICE TESTPROGRAM

VARIOUS TEST


To enter Service Testprogram hold PLAY & CD3 buttons depressed while plugging mainscord in. On/Off switch in pos. ON
• To leave Service Testprogram plug mains cord off.
• In the main menu the sound settings (volume, ...) and the trays work as in normal mode.
Display shows version number of the µP - software.
S--CDR80-VXX
S stands for Service mode
VXX stands for Version number of the software used in the Front (Display) µP.
DISPLAY TEST
DISPLAY button pressed?
Display shows all segments and flags (dimmed) for checking open circuits. see figure 1
All LEDs are switched on.
STOP button pressed?
QUARTZ TEST
REW ◂◂ button pressed?
Tact frequency µP (divided 10MHz)
Display shows
1OM
1220±37Hz can be measur. on ① (pin 27 of µP).
STOP button pressed?
KEY TEST
FFWD ▸▸ button pressed?
Display shows 1)
KEY --
Numbers acc. table 2 are indicated as long as a button is held depressed.
If a button is pressed on the Remote Control KEY RC is shown and the flag flashes.
STOP button pressed?
1) If the ON/OFF switch is in the position OFF, all other keys are blocked and display will show 99 as long any key is held depressed.
FORMAT EEPROM
CD TEXT button pressed?
Display shows
NCLN
for 2s.
EEPROM is cleared and default values are stored.
This test should only be used to clear the EEPROM in case of a µP-"hangup".
Attention: all data are set to default values, BLACK BOX data are not cleared.
EEPROM TEST
PROGRAM button pressed?
Testpattern is written to address 1 and read back again
Test ok?
Display shows
ERR
Display shows
PASS
STOP button pressed?
TEMPERATURE (NTC) TEST
AUX button pressed?
Display shows
NTC XX
XX = value in °C
STOP button pressed?

CDR80x



CDR82x

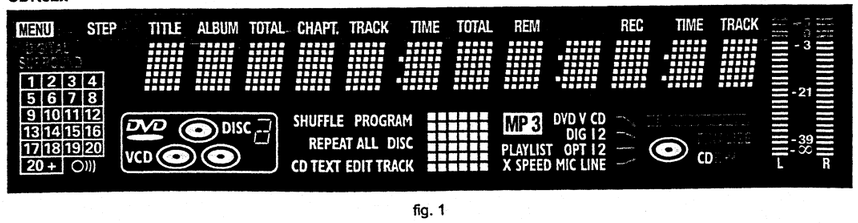


fig. 1

KEY CODES

KEY	KEY CODE	KEY	KEY CODE
OPEN/CLOSE (CDC)	0	CD1	14
CD CHANGE	1	COPY CD	15
AUX	2	COMPILE CD	16
CDR	3	RECORD	17
DISPLAY	4	PLAY/PAUSE	18
SHUFFLE	5	◂◂	20
PROGRAM	6	NO /CANCEL	21
CD TEXT /EDIT	7	▸▸	22
A-B EDIT	8	YES /ENTER	23
ERASE CD	9	SPEED (CDR820 only))	24
FINALIZE CD	10	OPEN/CLOSE (CDR)	25
REC LEVEL	11	ON/OFF	99
CD3	12	STOP	exit test
CD2	13		

table 2

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SERVICE TESTPROGRAM
CDR MODULE

- To leave Service Testprogram plug mains cord off.
- In the main menu the sound settings (volume, ...) and the trays work as in normal mode.

To enter Service Testprogram hold *PLAY & CD3* buttons depressed while plugging mainscord in. On/Off switch in pos. *ON*

Display shows version number of the µP - software.
Display: `S-CDR80-V xx`

S stands for Service mode
V xx stands for Version number of the software used in the Front (Display) µP.

CDR ELECTRICAL TEST

CDR button pressed? (N / Y)

Insert CD-DA disc before starting the test

MODULE INFORMATION

Display shows for 5s:
`MO xxxx Bxxxx`
- MO xxxx stands for Software version of MOZART (flash ROM 7101)
- Bxxxx stands for Software version of Basic engine processor (flash EPROM 7017)

MOZART BOARD DIAGNOSTIC

SDRAM TEST 7100
Display shows: `TST 1`
FFWD ▸▸ button pressed? (N / Y)

CHECKSUM TEST 7101
Display shows: `TST2`
FFWD ▸▸ button pressed? (N / Y)

ERASE TEST 7101
Display shows: `TST3`

COMMUNICATION TEST (UART-BUS)
Display shows: `TST4`
FFWD ▸▸ button pressed? (N / Y)

TEST O.K.? (N / Y)

Display shows: `ERR n`
n=number of failed test

FFWD ▸▸ button pressed? (N / Y)

all errors shown? (N / Y)

Display shows next error

CDR - LOADER TEST

The test is performed by playing 5s at beginning, 5s in the middle and 5s at the end of the disc. Display shows actual playing time.

TEST O.K.? (N / Y)

Display shows: `ERR 1`

FFWD ▸▸ button pressed? (N / Y)

Display shows: `PASSED` for 3s

Exit CDR electrical Test

Exit CDR electrical Test

CDR DC-ERASE MODE

ERASE CD button pressed? (N / Y)

Complete disc will be erased with 2x/4x speed. (starting from PMA-area up to and including ATIP leadout area)

The display shows the countdown of the remaining time required to complete the operation:
mm ss
mm: remaining minutes
ss: remaining seconds

Disc erased? (N / Y)

Display shows: `PASSED`

STOP button pressed? (N / Y)

Exit DC-ERASE Mode

Note: With the DC-Erase mode the CD-RW can be changed back in its original state, like a new disc. Stopping the erase-function by switching power off will leave the disc in an unpredictable status!

BURN IN MODE CDR MODULE

RECORD button pressed? (N / Y)

DC-ERASE MODE starts.
Display shows: `HH BI RE FE` [1)]

DC-ERASE finished? (N / Y)

Record complete disc from analog source with normal speed.
Display shows: `HH BI RE FE` [1)]

Error detected? (N / Y)

Complete disc recorded? (N / Y)

Finalize disc with double speed.
Display shows: `HH BI RE FE` [1)]

HH stands for the number of hours the test was running
BI stands for Burn In test
RE number of errors detected during DC erase and write mode
FE number of errors detected during Finalizing the disc

Note: The BURN-IN mode is an endless cycle of
- DC erase, to erase the CD-RW disc with max. laser power
- Recording a CD-RW disc with speed N=1
- and Finalizing with double speed

This test is intended to check the quality of a CDR loader and to detect intermittent failures.

[1)] With the *DISPLAY* button the info on the display can be toggled to indicate either the status of burn in test or the temperature measured via the NTC.

TESTS WORKING FROM FOLLOWING SOFTWARE VERSIONS ONWARDS:
V46, M2021 B0042 CDR80x
V34, M2021 B3201 CDR82x

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SERVICE TESTPROGRAM

3CDC MODULE

To enter Service Testprogram hold *PLAY & CD3* buttons depressed while plugging mainscord in. On/Off switch in pos. *ON*

- To leave Service Testprogram plug mains cord off.
- In the main menu the sound settings (volume, ...) and the trays work as in normal mode.

Display shows version number of the µP - software.

S--C DR80--V xx

S stands for Service mode
V x x stands for Version number of the software used in the Front (Display) µP.

ALL TESTS ARE WORKING FROM FOLLOWING SOFTWARE VERSIONS ONWARDS:
V46, M2021 B0042 CDR80x
V34, M2021 B3201 CDR82x

CDC LOADER TEST

CD1 button pressed? N / Y

Insert CD-DA disc before starting the test [1)]

The test is performed by playing 5s at beginning, 5s in the middle and 5s at the end of the disc. Display shows actual playing time.

TEST O.K.? N → Display shows: ERR n → *FFWD* ▸▸ button pressed? N / Y

Y → Display shows: PASSED for 3s → Exit CD electrical Test

FFWD ▸▸ button pressed? Y → Exit CD electrical Test

CDC MECHANICAL TEST
for visual inspection only (not for CDR82x)

CD2 button pressed? N / Y

Display shows: CD ME TEST

TURNTABLE TEST

YES button pressed? N / Y

Turntable motor is switched on. Display shows: DISC

YES button pressed? N / Y

Turntable motor is switched off.

FOCUS TEST [2)]

PLAY button pressed? N / Y

Objective moves continuously up/down. Display shows: FOCUS

PLAY button pressed? N / Y

Focus servo is switched off.

SLIDE TEST [2)]

JOG turned one step cw? (▸|) N / Y

Slide moves continuously in/out. Display shows: SLIDE

JOG turned one step cw? (▸|) N / Y

Slide moves to inner position.

TRAY TEST

OPEN/CLOSE button pressed? N / Y

Tray opens. Display shows: OPEN (even when tray is blocked)

OPEN/CLOSE button pressed? N / Y

Tray closes. Display shows: CLOSE (even when tray is blocked)

CAROUSEL TEST

CD CHANGE button pressed? N / Y

Carousel turns clockwise. Display shows: CAROUSEL

CD CHANGE button pressed? N / Y

Carousel is switched off.

STOP button pressed? N / Y

Exit Mech. Testprogram

[1)] The set does not automatically search for the place where a disc is inserted.
Only that disc will be played which is located on the compartment, which is just in PLAY position.
This will normally be *DISC 1*, except the carousel has been activated by the carousel test before.
It is therefore recommended to insert a CD-DA disc into compartment 1 before starting Service Testprogram.

[2)] Open tray to get free insight to the CD drive.